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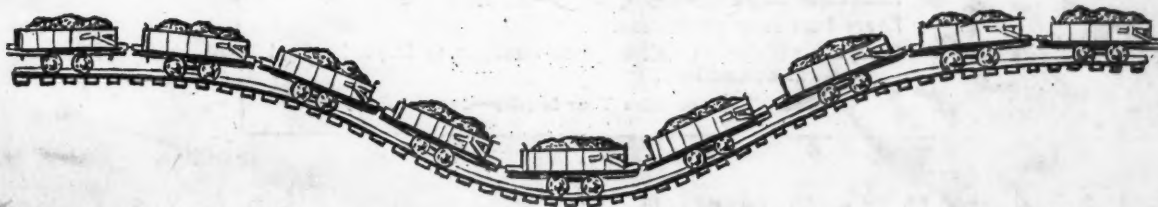
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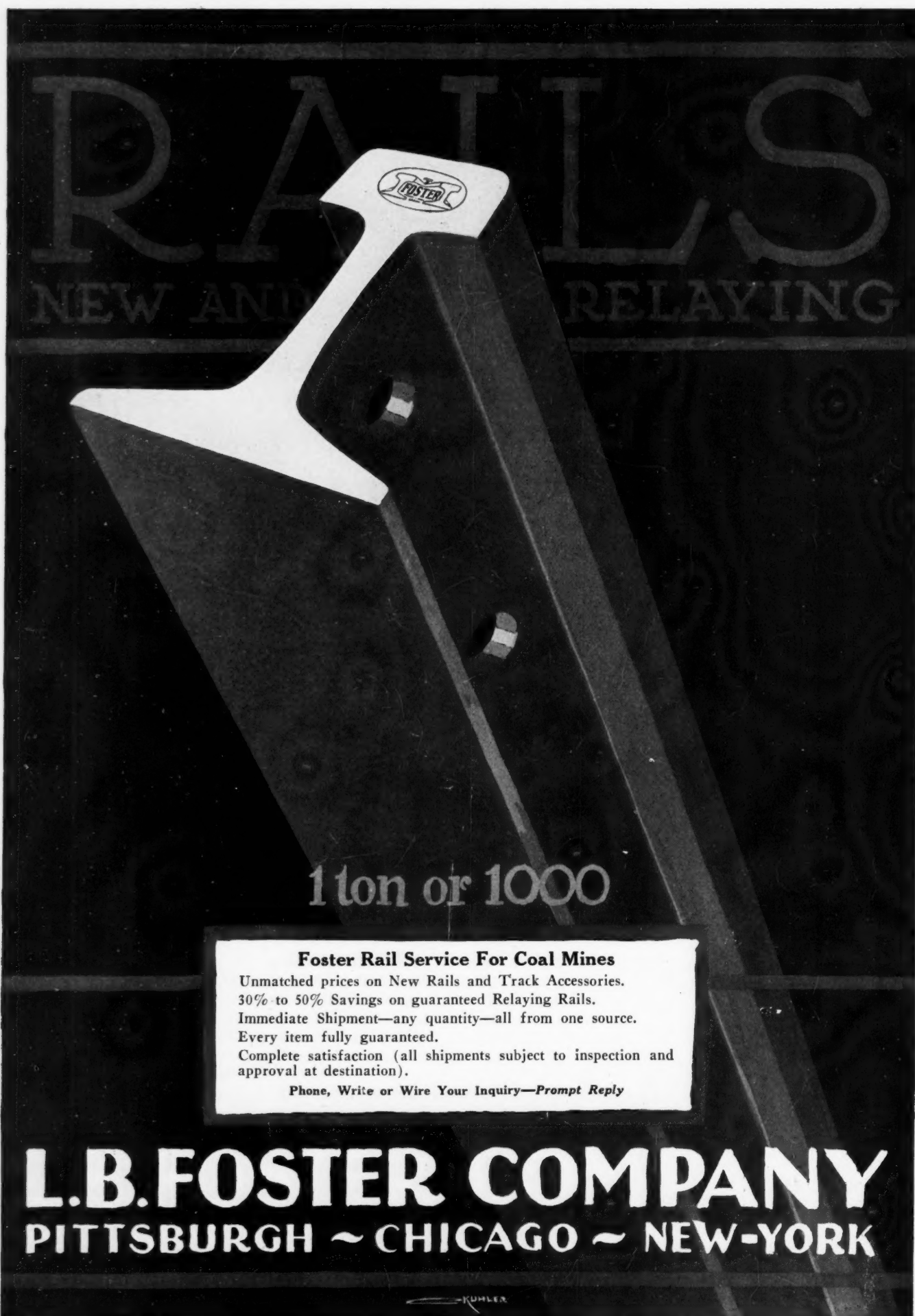
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With which is consolidated "The Colliery Engineer" and "Mines and Minerals"
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McGRAW-HILL PUBLISHING CO., INC.

Tenth Avenue at 36th Street, NEW YORK, N. Y.

WASHINGTON, Colorado Building
CHICAGO, 7 South Dearborn Street
PHILADELPHIA, Real Estate Trust Building
CLEVELAND, Guardian Building
ST. LOUIS, Star Building
SAN FRANCISCO, 883 Mission Street
LONDON, 6 Boulevard Street, E. C. 4, London

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Cable Address: "Machinist, N. Y."
The annual subscription rate is \$3 in the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Porto Rico, Canal Zone, Cuba, Honduras, Nicaragua, Dominican Republic, Salvador, Peru, Colombia, Bolivia, Ecuador, Argentina, Chile, Spain, Panama, Brazil, Uruguay, Costa Rica, Guatemala and Paraguay. Extra foreign postage \$3 (total \$6 or 25 shillings). Single copies, 20 cents.
Change of Address—When change of address is ordered the new and the old address must be given. Notice must be received at least ten days before the change takes place.

Copyright, 1926
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Publishers of
Coal Age Engineering and Mining Journal-Press
Engineering News-Record American Machinist
Power Chemical and Metallurgical Engineering
Ingenieria Internacional Radio Retailing
Bus Transportation Electric Railway Journal
Electrical World Electrical Merchandising
Journal of Electricity
(Published in San Francisco)
Industrial Engineer
(Published in Chicago)
American Machinist—European Edition
(Published in London)

Published weekly
Entered as second-class matter
Oct. 14, 1911, at the Post
Office at New York, N. Y.,
under the Act of March 3,
1879.

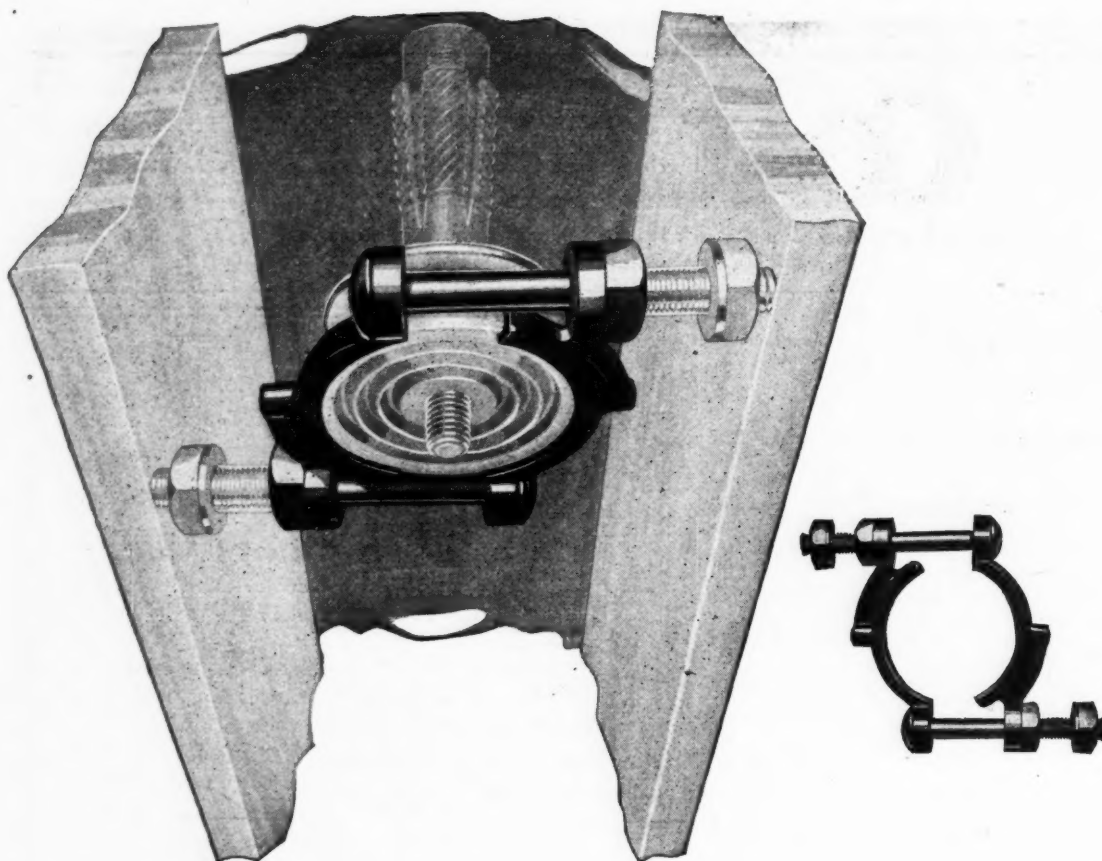
Printed in U. S. A.
Member Audit Bureau of
Circulations
Member Associated Business
Papers, Inc.
Number of copies printed
this issue, 11,837

Belts Rush Room Coal To the Entry

BELT CONVEYORS in rooms, operated as independent systems from face to car loading point at room neck, are winning their way in comparatively thin coal. The Pennsylvania Coal & Coke Corp. operating 35 mines has worked out a plan for their use, perfected two types of conveyors to make the plan workable and is now producing coal from three belt-equipped mines. The scheme has been in operation for a year and a half. The story of this newest cost-cutting, labor-saving idea appears in next week's issue of *Coal Age*.

The ingenious engineers of the company are proving that it is possible to apply "new fangled notions" in underground loading to old-fashioned mining layouts. It wasn't necessary to scrap the established room-and-pillar system with the inevitable travail and disorganization that usually follow an attempt to change a mining plan. Instead, 30-ft. rooms 275 ft. deep were continued. A 20-ft. self-contained belt conveyor unit was developed to be laid parallel to the face—it is a marvel of lightness—discharging into the main belt running along the rib to the entry.

The detail of how these belts are constructed and how the main one operates over wooden idlers suspended between posts along its course will interest every wide-awake coal mining man next week. This may be the scheme that answers the demand of a good many hard-headed engineers for a swift loading method that can be applied to room-and-pillar mining.



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COAL AGE

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Devoted to the Operating, Technical and Business
Problems of the Coal-Mining Industry

R. DAWSON HALL
Engineering Editor

Volume 29

NEW YORK, FEBRUARY 11, 1926

Number 6

Gunning for Golden Geese

IN THE NEXT FEW WEEKS the situation created by the prolonged anthracite strike probably will enter its most critical phase. Then, if ever, the chances that the coal-consuming public may feel a real pinch of fuel shortage will be greatest. For the most part, the fortunate householders who laid in liberal stocks of hard coal last spring will be coming into the market for a few tons of fuel to carry them through the closing weeks of the coal-burning season. Their demands will be added to the requirements of the less provident who have been struggling since last September or October to learn a new fuel technique. Should there be a breakdown of transportation service on top of this, we would have all the elements at hand for a dangerous coal panic.

What is needed above all else is the exercise of a spirit of self-restraint—individually and as an industry. There is too much at stake to risk losing all for the sake of an immediate extra profit. Coal producers and distributors who have a sense of public obligation will forego capitalizing upon public necessity. Those in the industry who feel that the treatment which they have received at the hands of the coal buyer has not been such that they should show the consumer any special consideration, nevertheless, if they are well advised, will move cautiously in the matter of increasing prices under the shelter of the inexorable law of supply and demand. They will surrender the chance to pile up extra earnings where in many cases extra earnings are sorely needed.

Such a policy, it is recognized, is contrary to the general rule of business. It means placing a bridle upon human nature. It means asking the coal industry to act in a manner which many of its severest critics would not follow had they a like opportunity to tap a golden stream of profits. Indeed, much of the criticism against high prices is the wail of frustrated desires. But much of the complaint, on the other hand, comes from people who can ill afford to pay exorbitant prices for the comfort of warmth in their homes. These latter are the innocent victims of an industrial struggle which was not of their making—but they are not inarticulate.

Enlightened selfishness, if nothing higher, therefore, should act as a brake on greed. The bituminous producer who doubles his price, the coke oven that asks \$12 to \$15 for fuel it willingly sold at \$4 a few months ago, the retail merchant who tries to make the consumers take all the risk of his investment in substitute fuels may not kill the golden goose, but the bird will surely fly to more inviting nests. No coal man who is politically minded should undermine a national policy of non-interference by creating a widespread public demand for government intervention and regulation. No coal man who wants to guide the industry into sound merchandising channels should be a party to

wrecking the business on the uncharted reefs of profiteering. If not for the public, then for the good of the industry, the coal trade must demonstrate anew its ability to meet a crisis with fairness, with skill, with adequate management and with moderation.

Keeping Down Coal Dust

MOST DANGEROUS of all explosive dusts are those that are fine. They are, too, the source of such diseases as are due to the breathing of dust. Any method, however thorough and energetic, that merely wets down the coarse dust, which promptly falls to the floor of the room, does not give the assurance of safety that conditions demand. If fusain and rosin dusts are peculiar hazards because of their fineness, we do ill to combat them by waiting till they have fallen because before they fall they may explode or when they fall may settle in some completed room or return airway beyond the reach of sprays.

Dr. R. R. Sayer's monograph on "Silicosis Among Miners," Technical Paper 372, of the U. S. Bureau of Mines, refers to the use of a spray when a shot is actually being fired. The dust is thus caught in the air and brought down to the ground. Some of the nitrous fumes are probably similarly eliminated. This practice seems well worth consideration by the coal industry. In many cases the metal-mining industry is using compressed air with water in its sprays. Unfortunately, compressed air is rarely available at the coal mine face. However, between the cloud-like discharge from an atomizer and the drenching stream from a nozzle, there is a middle course which might do much to lower the dust count in the mine air. But unless the water is clean and under a good pressure the delivery of a fine spray is out of the question. Of course, even though the room is sprayed, the coal itself should be drenched with a hose.

The Battery Locomotive

IT IS NO SECRET that many battery-equipped gathering locomotives are being converted to the cable-reel type, as the batteries wear to the point of renewal. Indications are that this move is taking place principally at the smaller mines.

Several reasons for the trend have been advanced. One, that regardless of the question of ultimate economy, battery renewals are being side-stepped because of the lump-sum nature of the upkeep cost. Another, that the advent of rubber-sheathed cable has decreased the delays and repair cost of reel locomotives, taking away any advantage in lower operating cost that the battery locomotive may have had.

Other reasons are that there were undoubtedly many misapplications of battery locomotives during the flush years in the coal industry, and that, with the stringent

economies of the last few years, many batteries have suffered for want of care.

Probably no other equipment is so adversely affected by the lack of a "stitch in time" as is a battery. It does not require an electrical engineer or a skilled electrician to keep a battery in condition, but it does require that there be someone of authority in the mine organization who fully realizes that the secret of low-cost battery maintenance lies in cleanliness and in immediate attention to the little defects as they may arise.

Batteries have proved to be reliable in mine-locomotive service. But few things can happen to a battery which will cause long delay during a shift. A broken jar cover, a broken connector, or a bad cell are minor difficulties. It requires but a few minutes to repair temporarily a connector or to "short out" a bad cell.

Perhaps the very features of reliability and the possibility of quick, temporary repairing have reacted to the disadvantage of batteries. If in practice the temporary repair is recognized as being only a means of finishing the shift, and not a way of finishing the week or month, there can be an assurance that one of the most important things in battery maintenance is being accomplished.

Schools, Past and Present

IT IS BOARDED UP now—the danger of a piece of the roof falling was too great and the safety engineer deemed it wise to shut off the entrance with a strong, business-like barricade. But only a few years ago that natural cave or opening in the side of the mountain served as a schoolhouse. It was cool and comfortable in there even on the hottest days, and here the children—and some of them could hardly be classed as infants either—gathered to learn the three R's.

They were a hardy lot, those children of the mountains. Like the regions they inhabited they were rough and rugged and the cave school was in entire keeping with the character of the young folks who attended it and with that of the master who presided. The community was poor and this little school room under the rock was the best that the "hollow" could afford. And so the cave school represented the only institution of learning available to the boys and girls of that rugged country.

But a change came. A big Northern company bought the coal rights for miles around, built a railroad up the hollow and opened some magnificent mines. The little valley became a beehive of industry. Where had been what was once termed a "farm," the thriving community of Lynch, containing several thousand people sprang up almost over night. And true to the traditional traits of the American pioneer a school house was one of the first buildings to be erected.

Those who planned this modern mining town among the Kentucky mountains possessed admirable foresight. Time, however—and only a short time at that, a span of years that can be more than counted on the fingers—has proved that they were not foresighted enough. Within two years the beautiful stone school building that was first erected proved inadequate to the demands made upon it and a larger, thoroughly modern high school was built beside it to relieve the pressure. This too has proved inadequate and already additional accommodations are needed. They will soon be provided.

Today, instead of the three R's as taught in the cave school less than a dozen years ago, the children of the

mountains and the children of the hollow, the offspring of the miner and the offspring of the "sager" alike can obtain the advantages of a fair education by merely putting forth a reasonable effort. The curriculum of the high school now embraces all branches usually taught in such schools including higher mathematics and the classics.

Nor is instruction confined to such subjects or to strict "book learning." The school has its band of about 20 pieces, an orchestra of approximately 30 instruments and a good-sized glee club. It also has its gymnasium and its athletic contests. Both the girls' and boys' basketball teams are second to none within the state. Once a week as a rule during the winter, usually on Wednesday evenings, these teams meet rival organizations from other communities or visit other schools for a like purpose. On such occasions the teamwork exhibited is frequently excellent and—what is vastly more important—the sportsmanship displayed is clean, fair and admirable.

In its way also, the high school serves to educate the entire community. It is its civic center and the hub of its civic pride. It is the place where everyone in the hollow meets on a common footing, and where genuine democracy is inculcated. Thus during the course of, say, a hotly contested basketball game, when the teams are evenly matched and the tide of advantage ebbs and flows from side to side with dizzying and bewildering rapidity, when disaster is skillfully averted or a particularly difficult goal is "shot," it is not uncommon to see the wife of a miner and the wife of a high company official occupying adjacent seats in the "bleachers" spring to their feet simultaneously, and wave their fur coats frantically as they shriek encouragement or commendation to son or daughter of the home team on the floor below. Nor to the inexperienced eye is there any marked difference in the quality or intrinsic value of the garments waved or in the size or luster of the jewels adorning the hands that wave them.

There are those in our complex present-day civilization who habitually prate about the heartless avarice of soulless corporations and bemoan the practical servitude and dependence of the industrial worker. To such calamity howlers a contrast between the present high school in this obscure hollow and its cave school of a decade ago might prove enlightening. Certain it is that the coming of the railroad and the opening of the mines, in short the dawn of industrial development, marked the beginning of real prosperity and progress to all those who dwelt within its mountain confines.

The Need for Research in Coal Uses

DEFINITE STUDIES are being, and have been for years, undertaken to promote the conservation of coal by economies in combustion. As O. P. Hood, of the fuels division of the American Society of Mechanical Engineers, says: "The boiler room has become a laboratory for steam generation." With all the study to make boiler practice economical of coal, with the American Railway Fuel Association extending the work to locomotive boilers, what studies are the coal industry making to find new uses and opportunities for its product?

The manufacturers of any product who take it for granted that business will grow like a snowball with a definite increment for every unit of travel are liable to be sorely disenchanted. Coal is learning that an unstimulated business is prone to be a declining one.



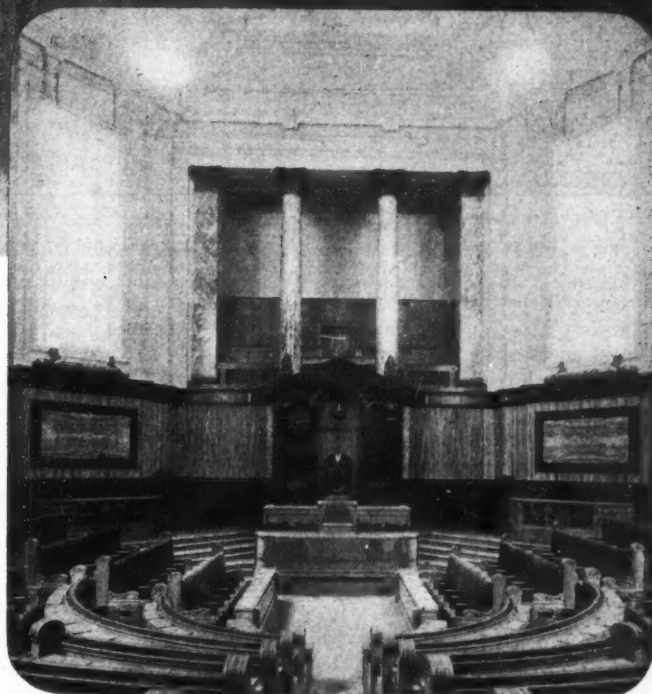
Refrigerated Air Is Cooling Buildings And Increasing Use Of Coal

By R. Dawson Hall
Engineering Editor

REFRIGERATED AIR is used not only in motion-picture theaters, as recorded in the article on "Cooling with Coal" in the issue of Jan. 14, but in many other places, cafés, restaurants, dance halls, amusement "palaces" and even in a hospital, all contributing their bit toward wider consumption of coal and a levelling upward of the summer sag in coal business. There are other places where it is used, but that I leave to a later issue.

It is quite likely that museums and picture galleries will adopt it. Museums are said to be proving the tombs for a number of world-famous pictures. In the *New York Evening Post* a correspondent from Paris writes: "Canvases by Raphael, da Vinci, Carolus Duran, Henner, Renoir, Monet, Degas, Sargent, Boldini and others, but ten years ago commending the admiration of every connoisseur, are almost unrecognizable. The reason is afforded by Albert Flament who says that 'in winter most Paris state art galleries register a temperature of 24 deg. F. and in summer the same state art galleries register 104 deg.'" Differences such as these are unknown in American art galleries because they are steam heated, nevertheless the range of temperature is doubtless larger than it should be between summer days and winter nights.

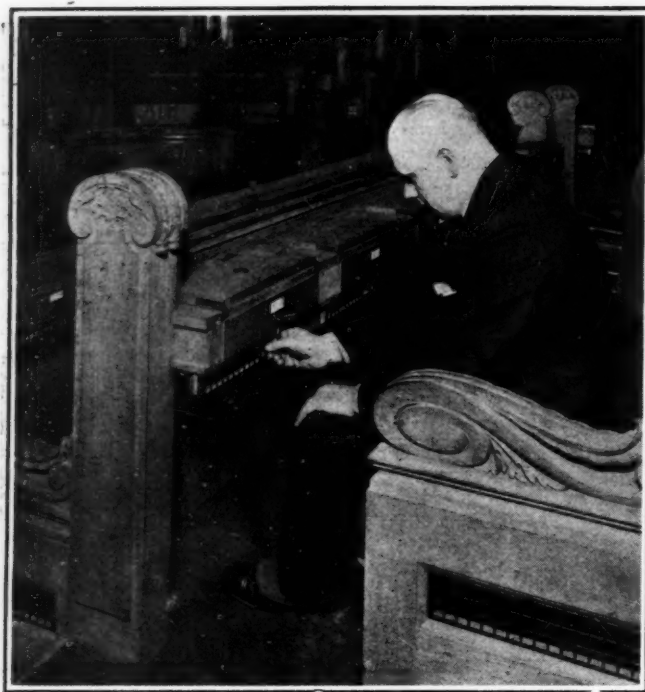
The headpiece shows the London County Council Hall and the main chamber which is cooled in summer by conditioned air from a plant in the basement.



American refrigerating and air-cleaning methods have already been applied to the atmosphere of London, England. A plant has been installed by the Carrier Engineering Corporation, of Newark, N. J., in a magnificent building known as the new London County Council Hall. The legislative and municipal bodies of England, as is well-known sit in long benches, not in separate seats and with desks. Such carven seats, or should we say "pews," are provided in the building mentioned. In front of the occupants of the pew is a ledge projecting from the stall in front. It is termed a desk—apparently by courtesy. Under the ledge is a box with a control lever which if thrown one way throws conditioned air toward the occupant and thrown the other way directs the air upward through the grille above the desk. At the end of the seat is a grille by which air is removed from the room and there are others beneath the seat. Each seat is independently controlled so that the occupant can have air to his liking.

Here, perhaps, something should be said as to the system of refrigeration at this plant which also is used in many buildings in this country, notably Madison Square Garden, reference to which will be made later.

This system uses the liquid refrigerant dichloroethylene, known commercially as dieline (di-e-line). The



How It Operates

The occupant of each seat in the London County Council Hall controls the flow of conditioned air through the ducts near him by moving a small lever under the desk. Thermostats can be set to maintain continued control.

liquid is heavier than water and has a boiling point at atmospheric pressure of about 120 deg. F. It is thus a stable liquid at all normal air temperatures and pressures. Its vapor has approximately three times the weight of air and though it is flammable it burns only with relative difficulty. When spread it will burn forming a heavy vapor which blankets the surface of the liquid, thus shutting out air and extinguishing the flame.

This vapor, like carbon tetrachloride, extinguishes fire not by any active property of its own except by being non-flammable and shutting out air. There is, therefore, said to be no gas hazard, particularly as the vapor instead of being under pressure within the system is under vacuum. There is practically no loss of the liquid refrigerant. It passes through a continuous cycle of evaporation and condensation within vacuum-tight walls. Small quantities of the refrigerant may be drawn from the machine during the purging process preparatory to starting but this mainly is recovered in passing through rectifiers.

The water or brine in the refrigeration system is produced by the evaporation of the dieline under a vacuum, produced by a centrifugal compressor which is a simple multi-stage fan similar in construction to the usual type of rotary compressor or steam turbine. This compressor produces the vacuum necessary for the evaporative cooling that takes place in the evaporator.

The third part of the equipment is a simple condenser with which the vapor is discharged from the compressor at a pressure considerably below that of the atmosphere, but sufficiently high to be condensed by a counterflow of cooling water taken either from the city mains or recirculated through a cooling tower. The condensed refrigerant is then, of course, returned to the evaporator to begin the cycle anew.

The innovations in the system are: That the entire cycle of evaporation, compression and condensation takes place at pressures considerably below those of the atmosphere, thus eliminating any possibility of out-

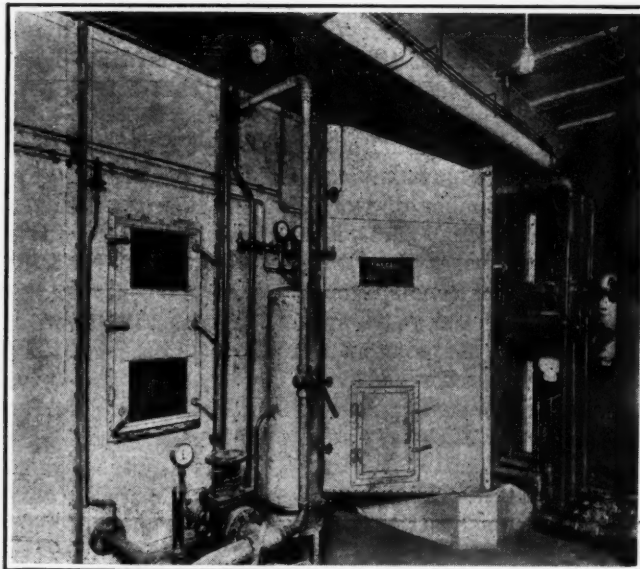
ward leaks under operating conditions; that there are no valves or cylinders and the only contact parts are the main shaft bearings, and that the compressor has a direct motor or turbine drive operating under constant speed under all load conditions except such as constitute so extreme a range as to make this impracticable. It is claimed that this machine occupies about 25 per cent of the space required by other systems of the same capacity.

A growing use of refrigeration is found in the grills, dining rooms, cafes and like rooms of hotels. Mention was made in the article of Jan. 14, "Cooling with Coal," to the refrigeration cooling of the Pompeian, Gold and French Rooms in the Congress Hotel, Chicago, and to similar cooling at the Ritz-Carlton Hotel in New York. These are historic installations. Chicago has not been slow to develop such cooling, and already the Sherman, Windermere, Sovereign, Wellington Arms, Southmoor, Belmont, New Bismark, New Palmer (225 tons of refrigeration), Blackstone (100 tons) and Morrison all have cooled rooms.

CHICAGO IS MOST ACTIVE

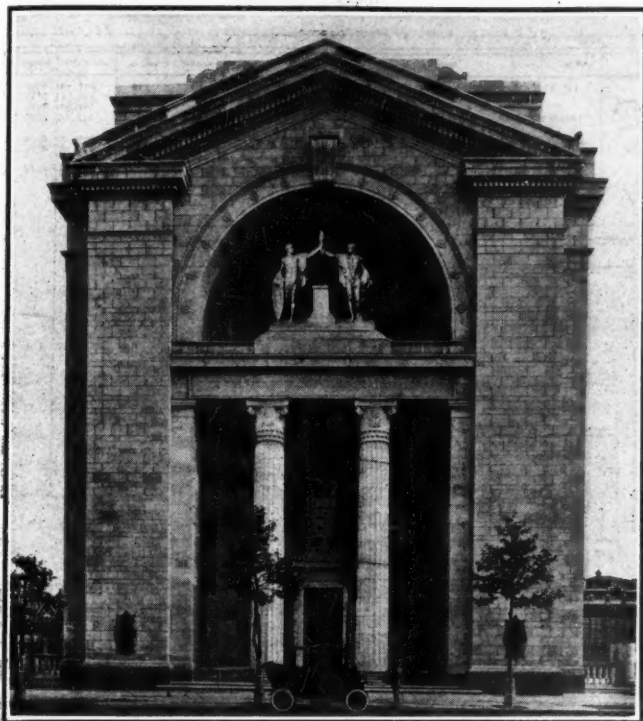
Chicago leads in this activity as in theater, restaurant and dance-hall refrigeration. In fact that city is the leader in the "keep-cool-with-refrigeration" idea. Two of the most active companies for the installation of such equipment are there and three leading engineers for comfort refrigeration are there also, Dr. E. Leonard Hill and C. W. and George L. Rapp, the two last being architects. The following restaurants in Chicago have refrigeration-cooled air: North American, Twentieth Century, Alamo, Winter Garden and Planters. The Astor Hotel Grill in New York has cooling by refrigeration as also, as stated, the Ritz-Carlton. So also has the Italian Tea Garden at the Ambassador Hotel, but so far New York has been apparently unawake to what can be done to relieve the sweltering discomfort of the summer.

Ohio has no less than three hotels cooled by refrigeration machinery: the Miami, at Dayton; the Winton, in Cleveland, and the Deschler (75 tons) in Columbus. The Book-Cadillac at Detroit, Mich., also is thus cooled. The South also is moving along. A pioneer was the



It Cools London County Council Hall

This is a general view of the humidifier and air washer showing the reservoir and pipes for compressed air which is used in control of the system.



Summer Heat Cannot Enter Here

Bush House, London, whose noble facade is illustrated, is cooled in the hot months by iced water pumped through the heating pipe system. During a test in the offices, the room temperature was brought down from 84 to 72 deg.

Rice Hotel in Houston, Tex., and now the Muehlebach in Kansas City and the Mayflower in Washington, D. C., have joined the list.

Other places of public entertainment are being or have been equipped. At Madison Square Garden in New York City where at times when a prize fight is being staged, 23,000 persons can be seated, the hall is cooled with dichloro-ethylene refrigeration. Here are 3 units each of 267 hp. capacity or a total of 801 hp. Each unit has a 280-hp. turbine running condensing. The recirculating pump for each unit is of 40 hp. In addition to the big hall a skating rink is kept at 67 to 70 deg. with ice on the floor.

COOL AIR FOR DANCE HALLS

Two dance halls have been built and provided with refrigerated air, one for Andrew Karzas in Chicago and one at Hammond, Ind. In the latter not only the dance hall but a billiard room and bowling alley are or will be cooled. The Karzas ball room has 225 tons of refrigeration, the horsepower of the two compressor motors installed is 300 and that of the recirculating pumps, 20.

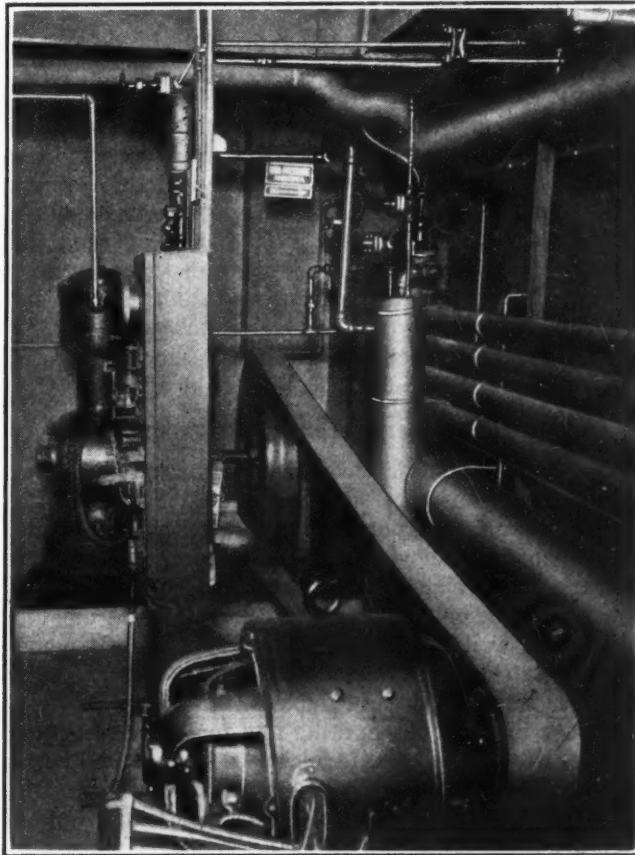
An interesting innovation is the refrigeration of the air supplied to J. L. Hudson's department store in Detroit. The store has three units of 200 tons each or 600 tons of refrigeration. The well-known pipe store of Alfred Dunhill of London, Inc., on Fifth Ave., New York City, keeps the temperature of the air in its cigar storeroom, which is ventilated separate from the store, at 66 to 70 deg. F. the year round, achieving this by a 2-ton installation of ammonia-refrigerating machines having thermostatic control. The air is cleaned and humidified and delivered to the storeroom at a humidity of 60 per cent. At temperatures around 68 deg. the larvae which assail fine tobaccos do not develop and air-conditioning consequently pays big dividends.

The following note from *The Engineer*, of London, England, issue of June 19, 1925, shows what is being attempted at Bush House, an American activity in London. This has not yet had a try out through a long hot summer to determine the comfort it affords:

"A novel form of reducing the high indoor temperatures, to which we have been subjected for the past fortnight, has just been tried in London, and has, we understand, proved very satisfactory. In the structure of Bush House, Aldwych, an elaborate system of piping was incorporated for heating purposes in cold weather, and it is now doing duty for cooling the rooms by the simple expedient of pumping cold water through the pipes.

"The success of the idea is however, due to the peculiar arrangement of the piping. Instead of using ordinary radiators, for heating the building, grids of $\frac{1}{2}$ -in. pipes are arranged in the walls just beneath the surface. Experiments were first made by circulating water from the city mains through the pipe grids, but it was not sufficiently cold to have any appreciable result. When, however, water from the artesian well belonging to the house was used, a considerable reduction in the temperature of the rooms was produced, as the well water is naturally cool.

"Finally some ice was put in the water tank, and the room temperature was brought down from 84 deg. to 72 deg. It would, of course, have been impracticable to seek this result with ordinary radiators, as their limited surface area would have necessitated the water being very cold to get the required transfer of heat, and freezing of moisture on the outside of the system would have caused inconvenience."



This Plant Cools Cigars

Two tons of refrigerating capacity is devoted here in the basement of the Alfred Dunhill store in New York, to maintenance of a stock room in which high-grade tobacco must not deteriorate during storage.

This Bookkeeping Method Simplifies Accounts

By John C. McNeil, C. P. A.
Louisville, Ky.

THERE IS at least one good method by which coal companies operating several mines can detail the operating expenses at each mine, obtain the total of all expenses at each mine and a daily proof of all expenses charged to all mines in one operation, and control the expenses at all mines through one general ledger account.

This is accomplished through the use of bookkeeping machines. All invoices when received for entry in the accounts payable should be charged through the accounts payable accounting system to the general ledger account, cost of mining. After all invoices have been posted in the general accounts, those affecting the cost of mining are removed from the other invoices for posting to the cost accounts.

Three forms illustrate this system. They are: (1) the Sub Account, (2) the General Account and (3) the Invoice Register covering all invoices posted.

The invoice register is placed in the machine and through an arrangement, a permanently attached sheet of carbon passes over this sheet to and including the balance account and all entries made on the other two sheets are made on this automatically.

The expense classifications should divide the detail expenses—both labor and materials—into 100 accounts for each mine (although it is not necessary to use all of the numbers) and number the mine general accounts in even hundreds. Thus, Account No. 100 would represent all of the expense accounts for Mine No. 1 and the accounts 101 to 199 would represent the details of these expenses. Account 200 would represent Mine No. 2 and the details for this account.

As invoices go through the various mine superintendents, it is, of course, understood that each invoice will be chargeable to one mine only and that a single invoice will not, except upon rare occasions, contain charges against two mines. This being true, the invoices should be assorted as among mines, the invoices for No. 1 being put in one arrangement and the invoices for No. 2 in another. The Mine Account, which is the general account, is next placed in the machine and a carbon runs over this form to the credit account.

PREPARING THE DETAIL ACCOUNT

The particular detail account that is covered by one or more items shown in the expense distribution on the invoice is taken and placed in the machine. The old balance, which is shown in the Old Balance column on the main account sheet, is written in the similar Old Balance column on the detail account, and the amount of the debit written, together with the vendor's name, on the detail account, and the number of the detail account is written on the ledger account.

In order to assist in checking and for other reference purposes the total of the invoice is also written on the Invoice Register in the whole amount column. All charges from invoices in favor of a particular vendor which are chargeable to a particular sub-account should be written on the Sub Account and after these are entered, the balance shown in the cross computing mechanism of the machine is written in the Balance column on the ledger.

INVOICE REGISTER									
JOURNAL OF DETAIL INVOICES									
OLD BAL.	DATE	VENDOR'S NAME	DEBIT	CREDIT	BALANCE	AMT. NO.	WHOLE AMT.	CHECK NO.	
125.43	7-11	McCabe Supply Co.	5.25			210	110.50	9150	
		Jellison Bros. Co.	10.74			210	176.50	9151	
		C. M. McElroy & Co.	8.13			210	184.50	9152	
149.65	7-11	Belknap Bros. & Mfg. Co.	18.25		149.65	210	210.00	9153	
168.90	7-11	Ohio Brass Co.	36.33		219.48	200	318.25	9154	
		Wagner Electric Co.	14.95			200	219.48	9155	
219.48	7-11	Ohio Brass Co. Cr Memo		10.33	209.15	200	10.33	9156	

ACCT. Cost of Mining- Mine No. 2.									
OLD BAL.	DATE	VENDOR'S NAME	DEBIT	CREDIT	BALANCE	AMT. NO.			
125.43	7-11	McCabe Supply Co.	5.25			210			
		Jellison Bros. Co.	10.74			210			
		C. M. McElroy & Co.	8.13		188.66	210			
149.65	7-11	Belknap Bros. & Mfg. Co.	18.25			210			
168.90	7-11	Ohio Brass Co.	36.33		219.48	200			
		Wagner Electric Co.	14.95			200			
219.48	7-11	Ohio Brass Co. Cr Memo		10.33	209.15	200			

SUB. ACCT. NO. 210.									
RAILROAD- SUPPLIES. Mine No. 2.									
OLD BAL.	DATE	VENDOR'S NAME	DEBIT	CREDIT					
125.43	7-11	McCabe Supply Co.	5.25						
		Jellison Bros. Co.	10.74						
		C. M. McElroy & Co.	8.13						

These Forms Simplify the Job

They are the principal ones used in the method explained in this article by which easy control can be kept at one office over the accounts of a group of mines.

This procedure is run through the entire posting of the accounts and when all the invoices have been posted, the vertical totalizers of the machine will show a total of all old balances picked up, a total of debits posted, and a total of credits posted, as well as a total of the new balances. As a proof of accuracy of the posting it is understood, of course, that the total of old balances picked up plus the total of debits posted less the total of credits posted will be in agreement with the total of new balances. Credit postings in these accounts will represent credit memoranda and other deductions from expenses previously posted.

After the day's work has been posted, the total debits shown on the Invoice Register will be in exact agreement with the total charges to Costs of Mining obtained from the accounts payable distribution.

NO MONTH-END JAM

By handling the distribution of detail expenses in this manner it is not necessary to carry an account with each mine in the general ledger, it also does away with pen-kept cost ledgers for each mine and facilitates the preparation of the various analytical statements which help the management in controlling expenses. As the three records are made in one operation and are proven daily with liabilities put on the books, there is no peak load at the end of the month.

By this system one operator in a day can handle an average of over a thousand postings including proving and balancing the accounts. Few coal companies exist that have 25,000 entries to their cost accounts each month and those that do have this volume of work are not detailing with a single operator their cost accounts and proving them with their actual payments or accounts payable credits. For the average coal company with two or three mines, about an hour per day would be required by an operator using this system.

IN CO-OPERATION with the Public Health Service, the U. S. Bureau of Mines is conducting a health survey at coal mines in different states, with the view of determining possible ill effects of breathing air carrying fine particles of coal dust, and the healthfulness of the conditions to which the miner in the average coal mine is exposed.

Conveyors Work Well in Thin-Seam Mines

Survey in Many Mining Fields Reveals Some Progress at Spring Valley, Ill., Henryetta, Okla., and Straven, Ala.—Lump Proportion Raised

By J. J. Rutledge

Chief Engineer, Maryland Bureau of Mines, Baltimore, Md.

SOME DISTINCT advances in methods of mining thin seam coal in various parts of the country have been achieved, especially by the use of conveyors underground. This fact was apparent after a study had been made, in company with a number of prominent coal mine officials, during a recent tour of operations in Illinois, Oklahoma, Arkansas and Alabama. The outstanding conveyor installations observed were those at the Spring Valley Coal Co. in the northern Illinois longwall field; the Crowe Coal Co., at Henryetta, Okla.; the Peerless Cahaba Coal Co. and the Montevallo-Straven Coal Co. at Straven, Ala.; the Paris Purity Coal Co. at Paris, Ark., and the Montevallo Mining Co. at Aldrich, Ala. Developments at the first three will be covered in this article. The others have been described previously.

Several of the experiments involve the use of radically new methods of working and equipment, and reflect credit on the mine management and the engineering force. It is believed that this paper records a distinct advance in the methods of mining thin coal seams efficiently and economically. The methods described are being carried out in strongly organized coal fields as well as in fields where there is no organization; in thin seams lying horizontal and in steeply pitching seams; in mines where no inflammable gas is found and in closed-light mines.

Mine No. 1 of the Spring Valley Coal Co. at Spring Valley, Ill., in which the "I. G. P." hutch conveyor was used for a period is a longwall operation and is characteristic of the northern Illinois longwall coal field. L. H. Smith is general manager of the company and I. G. Pospyhala the engineer.

The seam averages $3\frac{1}{2}$ ft. in thickness and lies practically horizontal under about 400 ft. of cover which is composed of shales and thin sandstones. No strong heavy strata are in the cover. The coal has no persistent bands of parting. The immediate roof is of soft, gray shale. These mines have been worked longwall ad-

vancing, Scotch system, for many years. Where the new method of mining was tried the cover is 450 ft. thick. Formerly all mining in this field was by hand, but during recent years machine mining has been introduced. The "back-breaks" in machine mining seem to be nearly vertical while in hand mining the line of break leans back on the gob. The greatest trouble with the new system seemed to be that the breaks were vertical rather than inclined backward on the gob, probably due to more rapid advance and uneven distribution of roof pressure. This results in premature breaks which close the face at times.

The method of working was panel longwall advancing with faces of a total length of 400 ft., 200 ft. on each side of the roadway. The cutting was done in the lowest portion of the coal seam by a long-wall mining machine. Pack walls, 20 ft. wide, were built on each side of the haulage-way. The panel longwall faces produced 240 net tons of coal daily with the following labor: 12 loaders, 3 machine men and 4 men shooting the coal, building cogs and timbering, 1 man operating hoist, and 1 man switching mine cars.

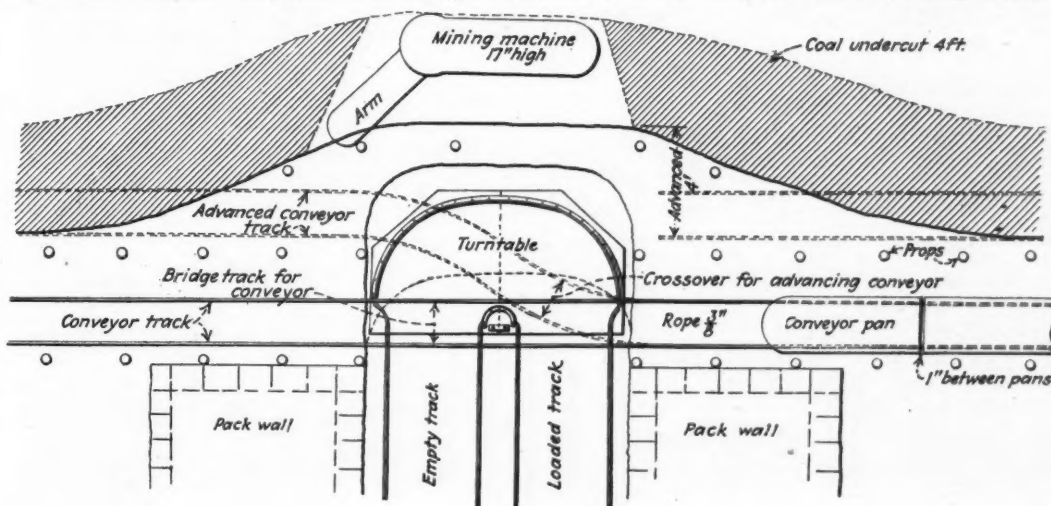
Two rows of cogs or cribs were used along the face. A room hoist moved the conveyor. This hoist was placed over the roadway, the bottom of the roadway being cut to a depth of 4 ft. to permit loading from conveyor into the mine cars. The conveyor ran on a face track of 19-in. gage. Props were placed on both sides of the face track. A "strap," or split-bar, was set over the conveyor, the outer end of which is supported by a prop and the other end hitched into the coal face. Four men did the timbering and built the cogs. It required 14 hr. for 3 men to cut 400 ft. of panel longwall face, or 42 man-hours.

The conveyor is made in 6-ft. sections. The track is in 8-ft. sections and is of 16-lb. steel though 12-lb. can be used. The gage of the track is 19 in. The splice bars are bolted to one end of each rail by a single bolt. The other rail, on the adjoining section,

FIG. 1

How Hutches Operate

Plan of track and machine layout at the loading point showing how the undercutting machine proceeds ahead of the conveyor and load track, cutting one-half of the 400-ft. face while the other half is loading out.



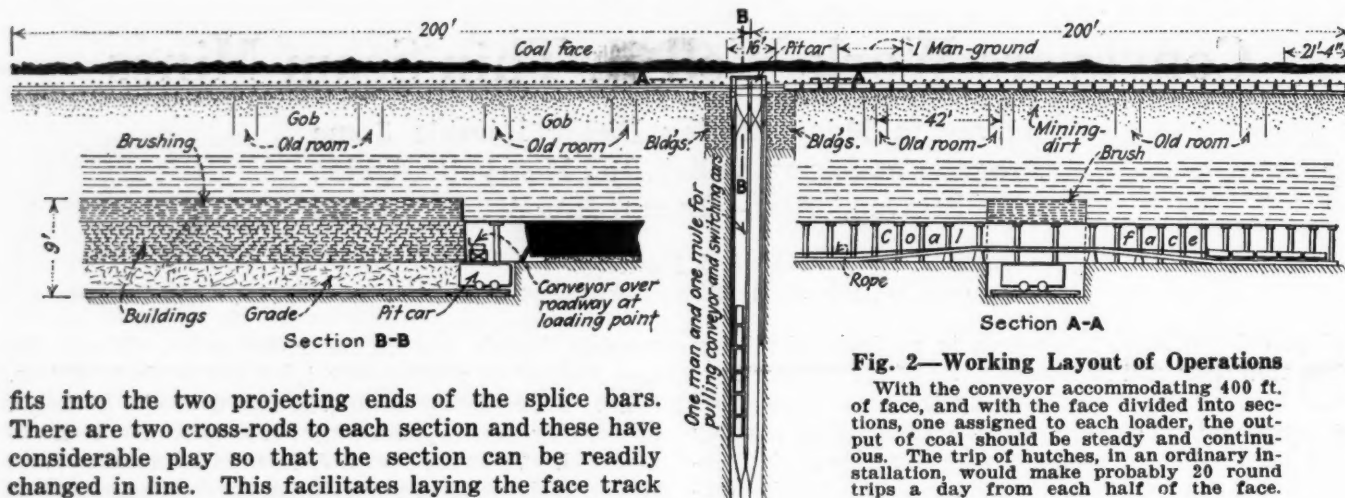


Fig. 2—Working Layout of Operations

With the conveyor accommodating 400 ft. of face, and with the face divided into sections, one assigned to each loader, the output of coal should be steady and continuous. The trip of hutches, in an ordinary installation, would make probably 20 round trips a day from each half of the face.

fits into the two projecting ends of the splice bars. There are two cross-rods to each section and these have considerable play so that the section can be readily changed in line. This facilitates laying the face track around props and cribs. The conveyor sections are supported on roller-bearing wheels, 3 in. in diameter. A washer is between the wheel and the angle-iron. The conveyor section is 6½ in. above the floor of the mine.

It is the practice to drill holes into the coal face, after it has been undercut, at distances of from 10 to 12 ft. and to explode small charges of permissible explosives in these holes. These small charges do not shatter the coal, which is of extremely hard character, but merely afford points of attack for the miner, who makes a shearing to a depth of 1½ ft. at the points where the shots are fired and then loads out the coal thus loosened. This shearing requires considerable time and delays the work of loading out the face.

The panel longwall face had been practically closed by a premature break several days previous to the visit of the party to the mine, and, therefore, only a portion of the conveyor was in operation at the time of the visit. The lost portion of the face, which included the mining machine, was being recovered and apparently the damage to the machinery was not great. Several days work should have reopened the face.

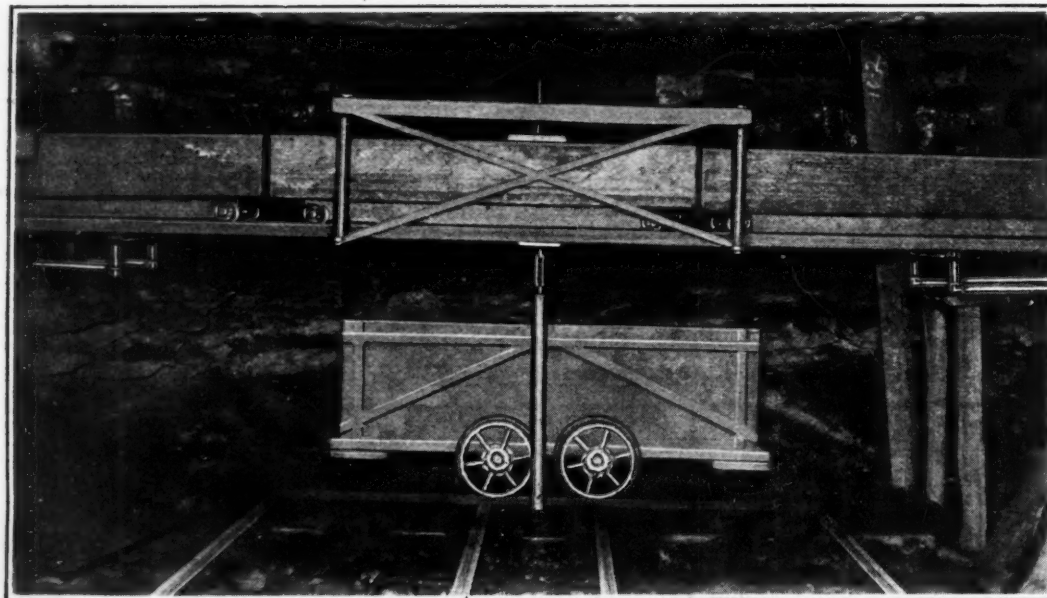
The practice followed at the mine in loading out the coal face after it had been undercut and blasted could be greatly improved by so arranging drill holes that the entire coal face would be broken up, though the coal would not be shattered. By choosing a proper permissible explosive and judiciously alternating the drill

holes in the face, the coal could be so loosened as to be easily loaded. As it is the loader must shear into the face for a distance of several feet, at the places where the coal face has been blasted, so as to give a loose end from which the coal can be readily loaded. This shearing requires several hours and while the miner is doing the shearing he is loading no coal and, therefore, his portion of the conveyor is empty and idle.

The face should be so broken up by blasting that it can be readily loaded into the conveyor without the necessity of the shearing. There is a decided prejudice against blasting coal in this longwall region, where such practice has never been customary, the weight bringing down the coal with little or no use of explosive, after the face had been undercut. Since the method is radically different from the old practice, it will necessitate material changes in methods of working.

By means of the room hoist located above the roadway, the pans or hutches which are attached to ¾-in. wire ropes passing over the drum on the hoist are alternately drawn along the face track, first along the panel longwall face on one side of the road head, and then along the other. After the loaders have filled the pans, they are drawn in a trip to the road head, where the plow scrapes the coal from the hutches and causes it to drop into the mine cars below.

The empty trip of hutches is useful in transporting timber, rock, supplies, etc. along the working face.



Heart of the System

Here the hutch conveyor delivers its coal into a car waiting on a turntable below a plow which scrapes the load from the trip of hutches or flat sheets on wheels. The conveyor parallels the face and advances with it. The depressed double track is extended correspondingly so that the turntable is always kept under the plow. The mine cars approach on one track, reaching the turntable where they are loaded, and revolved so as to be hauled away on the other track.

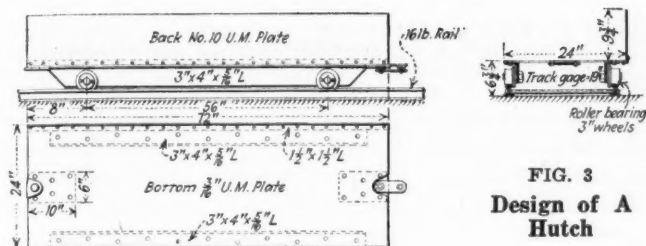
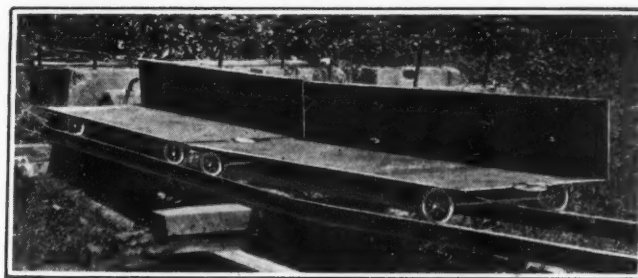


FIG. 3
Design of A
Hutch



Two of the Hutches Outdoors

This pair of 6-ft. steel sheets with their $9\frac{3}{4}$ -in. back plates illustrate the type of units which, coupled into 16- or 32-hutch trips, comprise a continuous, flexible conveyor to shuttle back and forth along a coal face, serving hand loaders.

It can be passed from one side of the road head to the other by a movable elevated track, passing in front of the hoist. The track is flexible and can be bent around props or cribs which cannot be moved on account of the roof weight.

In the event of one face being troubled by the roof working the hutches can be pulled to the other side, out of danger.

An interesting conveyor for thin coal has been developed by the Crowe Coal Co. at one of its Henryetta (Okla.) mines. The mine officials are E. F. Woodson, general superintendent; J. S. Cameron, mining engineer, and Justus Croyles, mine foreman. They have perfected a type of machine similar to that used in Arkansas by the Paris Purity Coal Co. and which was described in the March 5, 1925, issue of *Coal Age*.

The coal mined is the Henryetta seam, averaging 3-ft. thick with several small binders. The usual method of working has been pillar-and-room, entry and air course. Rooms are turned at 60-ft. centers and are driven at a width of 42 ft. with a room roadway on each side of the room. Room pillars are from 15 to 18 ft. thick. Few pillars have been pulled and the recovery is estimated to be 60 per cent under ordinary room-and-pillar method of mining, using machines, without extraction of pillars.

A panel longwall system has been adopted for the use of the conveyor so that recovery could be increased. The conveyor, using two parallel chains with angle scrapers between, was manufactured by the United Iron Works, Kansas City, Mo. The cost together with an extra tail piece and a 15-hp. a.c. motor and drum control, was \$3,800.

One man can move the conveyor in 4 hr. It is built in 10-ft. sections weighing 354 lb. per section without chain. It has a total length of 300 ft. including the tail and motor sections. An "oil field jack" is used for moving it and has proved fairly efficient in this work.

Previous to beginning the longwall experiment, four rooms were driven up to the usual limit and the room pillars pulled. Then taking the inby rib of the last room as the face, the experiment of panel longwall mining advancing was begun. When visited the mine was working a face 225 ft. long. The coal was undercut by a short-wall mining machine, having a 6-ft. cutter-bar.

Cover is 275 ft. thick and is composed of sandy shales and thin beds of sandstones with no thick or strong strata. The present work has advanced the new face 100 ft. or a total of 225 ft. counting the four 45-ft. rooms on 60-ft. centers. Mr. Woodson said he estimated that he had recovered a total of 6,000 net tons of coal from the area 225x225 ft.

Props are 8x8-in. oak and set in rows of four about 4 in. apart and in a line at right angles to the face. There is a row of such props every 4 ft. It is the practice to draw the fourth prop, or the one nearest the gob first, using an 8-lb. hammer.

In previous pillar-and-room mining, using machines for undercutting the coal, the yield was of the following proportions: Lump, 40 per cent; nut, 20 per cent; slack, 40 per cent. It is expected that the yield under the panel long-wall method will be: Lump, 80 per cent; nut, 12 per cent; slack, 8 per cent.

The coal that we saw loaded by the conveyor was in exceedingly large lumps. The roof weight had been well controlled and only a few lines of fracture in the roof slate were noted crossing the face. Only one crib was observed which had been built recently to maintain the morale of the working force. Props had been used almost exclusively. A narrow place had been driven in the solid coal in advance of the panel longwall face, to afford a way of escape for the men in the event of the face suddenly closing.

A roof break observed was leaning back on the gob at about 60 per cent with the horizontal. The nearest row of props to the face was 12 ft. away and no props were between the conveyor and the face, which was being loaded out at the time of the visit to the mine. A second excellent break had been realized and the angle of break leaned back on the gob at about an angle of 45 per cent with the horizontal. There was a break in the roof, or what seemed to be an impending roof fracture running over the roadway and parallel thereto, where it had been brushed to permit the loading of coal into the mine cars from the conveyor, but this looked more like a weathering of the roof than a crack or line of fracture due to roof pressure.

The Peerless Cahaba Coal Co. in its Peerless mine at Straven, Ala., presented probably the best example of roof control over a conveyor that we saw. A. Sicard is president of the company and F. E. Dunlap general superintendent.

This mine is located on the Southern Ry., in the lower portion of the Cahaba coal field, at a point where the seams pitch heavily. The method of mining previously followed was pillar-and-room, with the rooms driven directly up the pitch. The coal is in the Helena seam, the output of which usually is of excellent quality

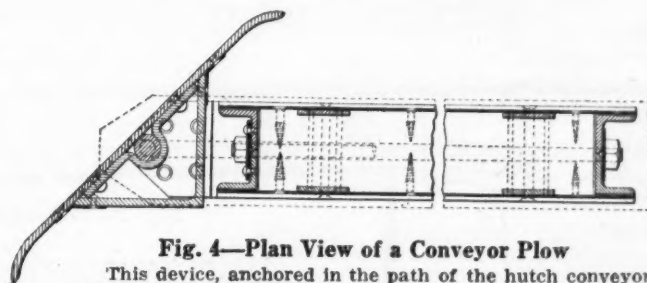
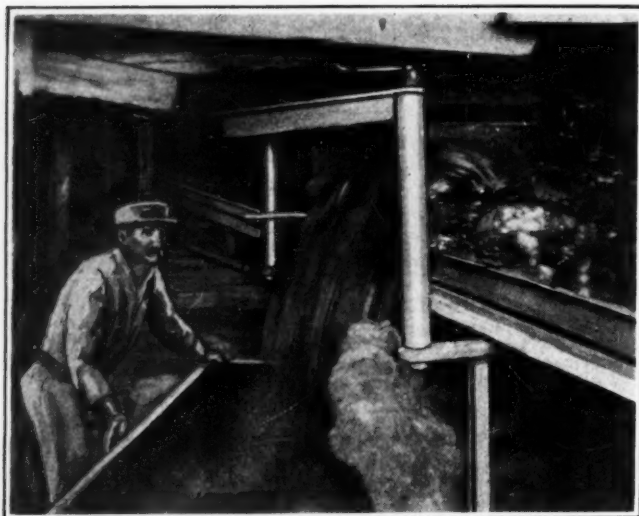


Fig. 4—Plan View of a Conveyor Plow

This device, anchored in the path of the hutch conveyor, scrapes the coal into a waiting car on the turntable directly below.



Unloading a Hutch Conveyor

The plow is held rigidly in position over the depressed mine track. The load of coal from each trip is scraped into the mine car. The conveyor is drawn by a car hoist in the haulageway.

and is sold for domestic use. At this point it is about 5 ft. thick of the following section:

Hard shale, dark colored	
Draw rock	3 in.
Clean coal	2 ft. 2 in.
Middle man	3 in.
Clean coal	1 ft. 8 in.
Middle man	5 in.
Hard bottom coal, clean.....	10 in.
Bottom, hard shale.....	

At the outcrop the dip begins at about 35 deg. but down in the present workings—over 1,800 ft.—it pitches about 15 deg. The coal is hard in character and is difficult to mine but when undercut makes excellent lump.

The problem confronting the company was to perfect a safe method of working which would yield the tonnage desired at the minimum cost of production, with the maximum proportion of domestic lump. The usual plan in this field, where the overburden is from 500 to 700-ft. thick, is to leave about 50 per cent of the coal in pillars. Therefore, it was decided to mine out the first 50 per cent in solid blocks, such blocks constituting working faces, with one face on each entry. The remaining 50 per cent would be left as solid blocks which could be mined on the retreat, all the other work being done on the advance. Solid coal is between the second and third

entries as well as the fourth and fifth entries. The "walls" or "panels" are thus bounded by the sixth and fifth headings, fourth and third headings, and second and first headings, giving six walls or panels which are referred to as "sixths," "fourths," and "seconds" because the coal passes down hill from the walls to these headings. The solid pillars of coal are left between the "seconds" and the "thirds" and "fourths" and "fifths" headings. The coal in these pillars will be brought back retreating through the "thirds" and "fifths" haulageways.

The main top overburden in this mine is massive sandstone with interstratified shale and sand, varying from nothing to 6 ft. between this sandstone and the coal seam.

In all of the walls the top stands perfectly for long-wall work. The practice of shooting out the props has been discontinued but three rows of extra heavy breaker props are still set at 60-ft. intervals to break the roof and to permit the roof pressure to cushion down behind the row of breaker props and to break at will. This practice, it has been found, keeps the breaking of the roof farther back from the working face and this results in less delay in the work at the coal face. The breaks in the roof are made on an average of every 60 ft.

The present method of working is true panel longwall. A 200-ft. face is driven away from the slope on the strike line of the seam. The active area may be likened to a room 200 ft. wide, driven directly away from and at right angles to the slope and in the line of strike toward the boundary of the lease which is a mile on either side of the slope. Below this panel longwall face, or room as it may be called, is the haulage entry, separated from the wall by a chain pillar. Below this haulageway is an unbroken pillar of coal 200 ft. thick, which it is planned to pierce at intervals of from 1,500 to 2,000 ft. with a passageway, 10 ft. wide, to shorten the travel of the air currents. This passageway will also shorten power transmission lines and afford escape-ways.

Above each panel face is yet another entry, separated from the first face by a chain pillar which provides a direct return for the air current and also is useful in lowering timbers and supplies along the longwall face. This entry will be used to retreat with the 200-ft. solid block of coal left above it.

This company has developed and is advancing six of these faces. The two top faces are the steepest and

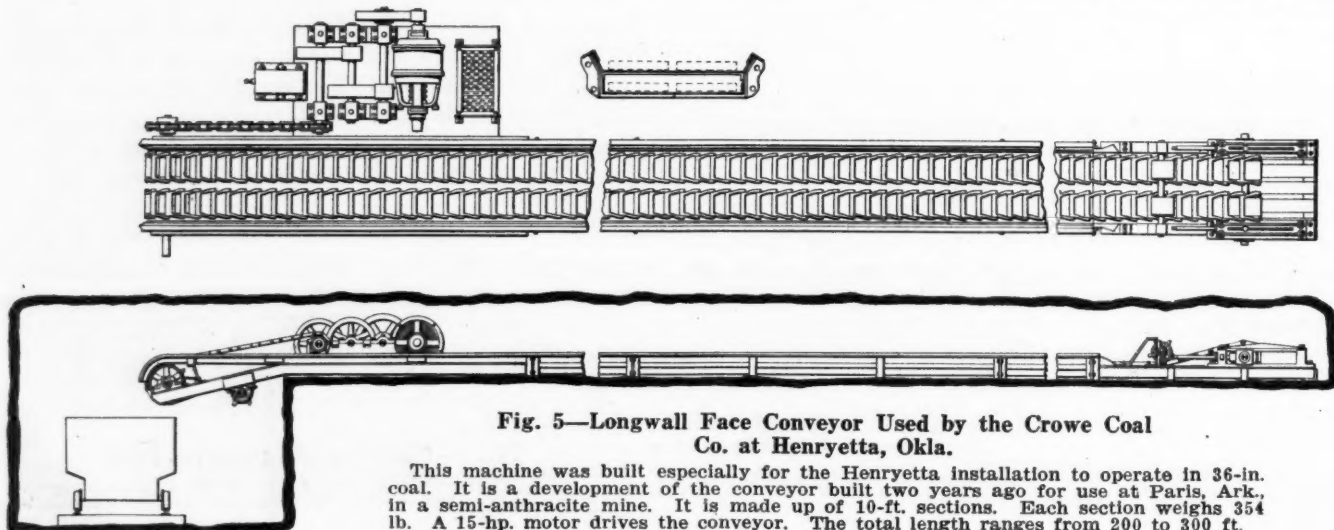


Fig. 5—Longwall Face Conveyor Used by the Crowe Coal Co. at Henryetta, Okla.

This machine was built especially for the Henryetta installation to operate in 36-in. coal. It is a development of the conveyor built two years ago for use at Paris, Ark., in a semi-anthracite mine. It is made up of 10-ft. sections. Each section weighs 354 lb. A 15-hp. motor drives the conveyor. The total length ranges from 200 to 300 ft.

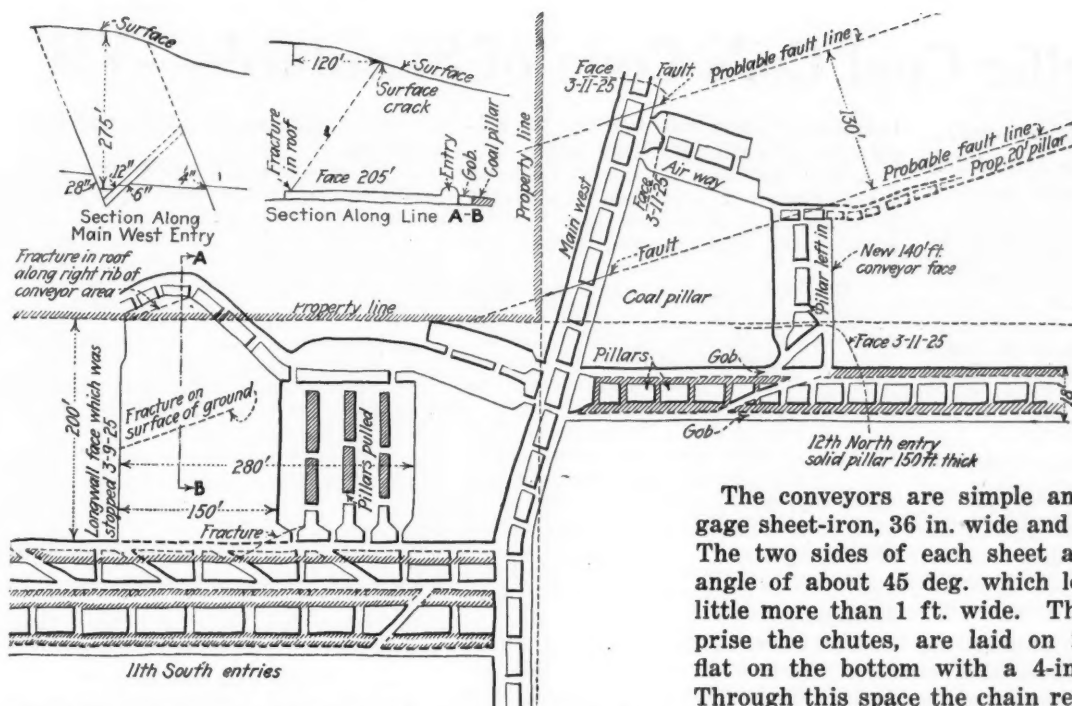


FIG. 6
Conveyor Did Well Here

This layout in one of the Henry-etta mines of the Crowe Coal Co. shows how the conveyor enabled the company to shift over from room-and-pillar to longwall mining. In consequence, the proportion of lump rose from 40 to 80 per cent. Recovery in the district averages 60 per cent. This mine will far exceed that average.

have been advanced 1,200 or 1,300 ft. without trouble. The other panel longwall faces have been driven about 800, 700, 500 and 400 ft., respectively. The work is progressing steadily.

In order to protect the entries and make ventilation positive, three of the steepest faces, which pitch 25, 30 and 40 deg., are driven with the chain pillar above and below the panel faces. As these three faces are so steep no conveyors are needed and the coal slides by gravity down the sheet iron chutes which are kept full of coal to prevent breakage. When the pitch becomes as great as 40 deg. the coal slides freely on the hard, smooth bottom. At the bottom of each face the chute is deflected as the face advances to permit the coal to pass through the last open upset to the haulageway below.

On the other three walls where the pitch is only 15 to 20 deg., the bottom chain pillars are taken out to permit the operation of longwall conveyors along the panel faces directly down the pitch of the coal seam to the mine cars. In all entries, 2 to 3 ft. of bottom is taken up in the haulageways in order to bring the tops of the mine cars down to about the level of the bottom of the seam. This allows an easy discharge of the coal from the conveyor to the cars. One hundred 3-ton automatic drop-bottom mine cars are used.

MACHINES CUT UP THE PITCH

In the three lowest faces the cutting machines, which work in the lowest portion of the seam, make an arc cut starting at the bottom on the entry, and in all cases, cut directly up the pitch. By making these rounded cuts, the entry is kept ahead of the panel faces a sufficient distance to maintain space for an empty mine car supply for the conveyor. All the coal is cut without moving the machines in the haulageways from one entry to another—a process which is always hazardous on steep pitching seams. The company has had no difficulty in cutting up the steepest face where the dip was about 40 deg. In one place the machine was observed to be successfully cutting up a pitch of 55 deg. Usually the 200-ft. faces can be cut in from 3 to 6 hr.

The conveyors are simple and home-made. No. 11 gage sheet-iron, 36 in. wide and 10 ft. long is employed. The two sides of each sheet are bent upward on an angle of about 45 deg. which leaves the flat bottom a little more than 1 ft. wide. These sheets, which comprise the chutes, are laid on 2x4-in. timbers, placed flat on the bottom with a 4-in. space between them. Through this space the chain returns. No. 78 Reliance single-flight, riveted chain, without any special flights, is used. As the pitch is almost great enough for the coal to slide by gravity, only a small motor is necessary to supply power to move the chain. A 5-hp. motor, connected to a 5-hp. speed reducer, with a reduction of 28 to 1 for a 1,200-r.p.m. motor and 50 to 1 reduction with an 1,800-r.p.m. motor serves the purpose.

This provides a light, flexible drive which does not require any more attention than the motor proper. The conveyor drive sprocket is on the speed reducer shaft; the bottom conveyor pan fits down tightly over the top of the frame of the speed reducer. It has not been found necessary to anchor this conveyor at any point except at the bottom.

It was some time after the first break in the roof was made before the company learned how frequently the breaks should be made. After trying light and heavy swings of the roof, it has been found advisable to make the roof breaks every 60 to 75 ft. In general, the roof condition is good if advancement is rapid and uniform. A few rooms were driven upward from the two first entries, under the belief that they were too steep for panel longwall work. But in these few rooms, which were 30 ft. wide, it was difficult to hold the roof up until the rooms were driven their full distance.

Notwithstanding this experience, it was found possible to advance a panel longwall face until a 200-ft. square area was mined out with about the same relative quantity of timber. As a consequence these rise rooms have been discontinued and are now included within the two top longwall panels. It is planned to advance the combined area of the 350-ft. panel longwall face to the boundary of the lease, leaving a 400-ft. solid pillar between the top of the body of coal and the outcrop of the seam. The advantages of this method over the old rise room and pillar method are: First, there is a concentration of working places; second, the haulage is simplified; third, the cutting is continuous; fourth, the ventilation is positive and travels the minimum distance.

The Peerless Cahaba Co. reports that the greatest advantage of the present method is the larger size and better quality of coal produced.

Union Pacific Coal Co.'s Code of Standards—VII*

Track Standards, Ties (Continued)

8. In no case shall ties extend less than 8 in. beyond the outside flange of rail.

Note—The ideal mine tie length is 1.8 times the distance between rail centers.

9. All ties should have two parallel faces, the minimum width of which should be not less than 4 in. and in no case should slope and main haulage-road ties be less than 6 in. thick. Room ties should be not less than 5 in. thick.

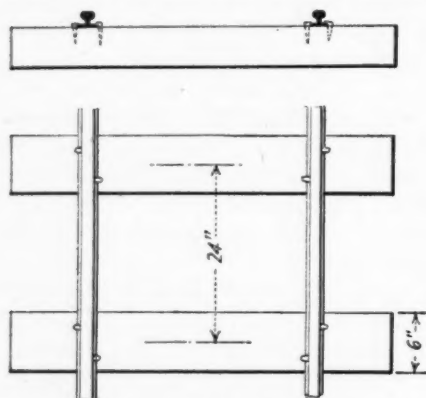
Rails and Spikes

1. All tracks must be laid with broken joints; that is, the joints in one line of rails should be as nearly opposite the centers of the rails in the opposite line as practicable.

2. No rail less than 10 ft. in length will be permitted on any main haulage road.

3. The practice of placing spikes where miners can help themselves must be discontinued. Spikes should be issued by the foreman and assistants as needed.

4. Spikes should be staggered; that is, those on the outside of the rail should be to one side of the tie and



Note: Maximum theoretical clear span allowable with 40-lb. steel and a 10-ton locomotive is 42"

Fig. 31—Haulageway Construction Cuts Costs

Spikes are staggered so as to obviate the possibility of splitting the ties and causing the rails to become loose.

those on the inside of the rail to the opposite side of the tie. (See Fig. 31.)

5. Each foreman and assistant foreman is to provide himself with and carry a clinometer rule.

6. On straight runs of track the gage shall be held at right angles to the track and the rail held tight against the gage and spiked. Any allowance given for clearance shall be made on the gage length.

7. Superelevation of rails on curves will be given by the engineer at the property, as the gage of track, velocity of trip, and radius of curvature are de-

*This is the concluding article of a series giving the Code of Standards put into effect by the Union Pacific Coal Co., at its operations in Wyoming. The preceding articles appeared in the issues of Dec. 17, 24, 31, Jan. 7, 14 and 28.

termining factors entering into the calculation of each individual case.

8. For increase of track gage on curves allow not more than $\frac{1}{2}$ in., which is about the maximum for various wheel bases, wheel treads, curve radii, etc.

9. Each trackman's gage for each property shall be of a standard length, viz., even gage, leaving nothing to the guess or allowance of the workman.

10. Spikes in abandoned, worthless ties must be reclaimed by burning.

11. A record of all derailments shall be kept by the mine foreman giving date, cause and location. Drivers and motormen must give their reports of such happenings to the mine foreman daily.

12. Rails shall be of three weights only, viz., 20-, 40- and 60-lb., of A. S. C. E. section.

Sixty-pound rails will be used on main slopes, 40-lb. on panel slopes and motor haulageways, and 20-lb. rails in rooms.

13. The size of spikes for the various weights of rail shall be as follows:

20-lb. rail, 4 x $\frac{3}{4}$ in. (1,000 per 200-lb. keg). (These only should be given to miners.) 40-lb. rail, 5 x $\frac{3}{4}$ in. (450 per 200-lb. keg). 60-lb. rail, 5 $\frac{1}{2}$ x $\frac{3}{4}$ in. (375 per 200-lb. keg).

Curves and Turnouts

1. Lines for all turnouts off main slopes and partings, together with frog and switch locations, will be given by the chief engineer or his assistants, and no such turnout shall be placed without his preliminary layout.

2. All curves on rope haulageways shall be placed in accordance with Figs. 32, 33 and 34, and the engineer must give the lines and plans for this work.

3. The mine foreman must see that

all work conforms to plans and lines as given.

4. All curves and turnouts are to be laid with proper reference to clearance at points where switching is done.

Note—Do not spoil a good track layout by making the track conform to the rib. Make the rib conform to the track.

Fishplates, Angle Bars and Rail Braces

1. All rails of any weight shall be laid with joint fastenings.

2. Twenty- and 40-lb. steel shall be fishplated; 60-lb. steel shall be joined by splice (angle) bars.

3. All joint fastenings must be applied with their full complement of bolts, nuts and cut washers screwed up and kept tight.

4. Rail braces should be applied to all curves where the gage is maintained with difficulty.

5. Where rail braces are used they should be applied to both rails.

Frogs and Switches

1. A No. 2 cast frog conforming to Fig. 35 shall be used on all new room switches of 20-lb. rail.

2. Frogs Nos. 3, 4 and 6 are to be built up and must conform to Figs. 36-40.

3. No. 6 frogs will be of 60-lb. steel only and will be used only in turnouts off the main slope.

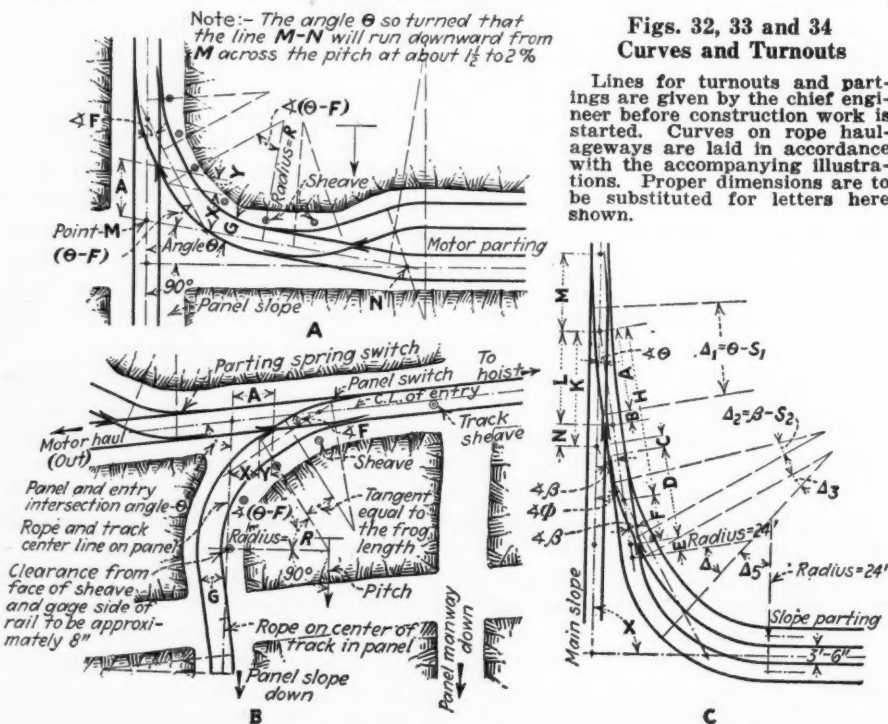
4. Turnouts of standard material shall conform to the standard turnout drawings.

5. Turnouts within the mine must be placed to conform to the ribs of the curve and not to the nearest rail joint.

6. In the future, when the laying of a turnout with material that is not standard is contemplated, the engineer of the property will take the frog and switch dimensions from the material on the ground and compute the turnout data.

Figs. 32, 33 and 34 Curves and Turnouts

Lines for turnouts and partings are given by the chief engineer before construction work is started. Curves on rope haulageways are laid in accordance with the accompanying illustrations. Proper dimensions are to be substituted for letters here shown.



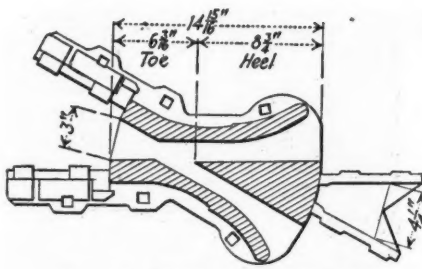


Fig. 35—Standardizing Frogs

This is a sketch of the type of cast-iron frog to be used on all new room switches using 20-lb. rails.

7. Do not fail to provide the proper clearance around switch throws.

Mine Rescue Apparatus and Training

1. The mine rescue apparatus for the Rock Springs field will be concentrated at Rock Springs.

2. No crew will be allowed to enter the rescue building and take, use or handle any apparatus unless the person having charge of this apparatus is at hand.

3. No rescue crew will be allowed to enter any mine to do actual rescue work unless a reserve crew is on hand with machines and equipment to lend assistance if necessary.

4. All apparatus is to be thoroughly inspected not less than twice each month, and each machine or piece of apparatus is to be tested, examined and a tag attached thereto giving date of examination and stating the condition of that particular machine or piece of equipment.

Note—Any recent repairs made, such as new breathing bag, tubes, etc., must be

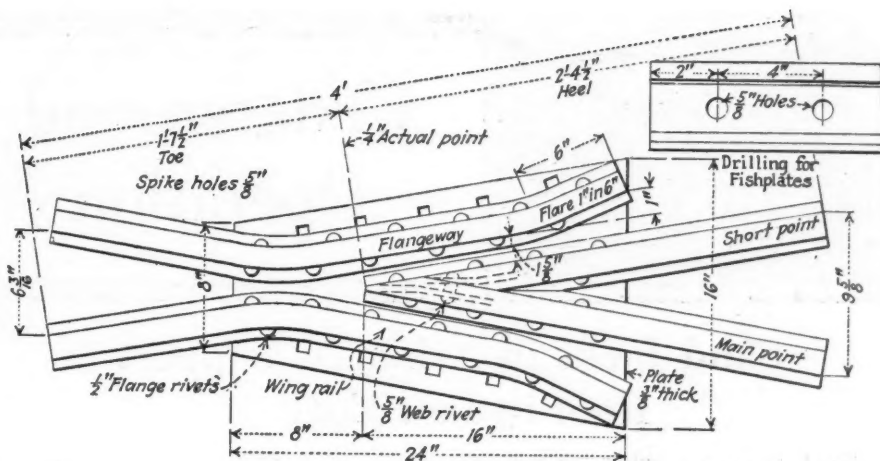


Fig. 36—No. 3 Stiff Frog for 20-lb. Rails

RAIL—2 1/2-in. 20-lb. A.S.C.E. Section, first quality. Drilled 2 in. x 4 in. — 1/2 in. holes. PLATE—Rolled steel, 1/2-in. thick, size 8 in. x 16 in. x 24 in. Spike holes 1/2-in. square. WEB RIVET—1/2-in. diameter, to bind main and short points. FLANGE RIVETS—1/2-in. diameter, 34 total, to be spaced about as shown. To be countersunk on bottom, flush with plate. FLANGWAY—1 1/2 in.

noted on the attached tag in order that the person wearing the apparatus may be on the alert for loose gaskets or connections in the new parts when the machines are first worn.

5. There shall be kept on hand at all times not less than 800 cu.ft. of reserve oxygen (7 containers).

6. A monthly report of apparatus will be made by the person caring for this equipment: one copy to be sent to the general superintendent and one to the safety engineer.

Note—This report must cover recent repairs, supplies on hand, condition of machines (each machine to be designated by a number) and the like.

7. The safety engineer must keep a

file of all men employed by the company, that have received first aid or mine rescue training.

8. A record of the men and the training they have received at the local mine rescue station is to be kept by the person in charge thereof.

9. A record of all new men to receive training, or those entering the employ of the company that have had previous training, must be filed with the safety engineer.

10. No man shall be trained in mine rescue work without a physician's certificate showing that he has a sound heart and normal blood pressure.

Figs. 37-40—Built-Up Frogs Must Be Made According to Dimensions

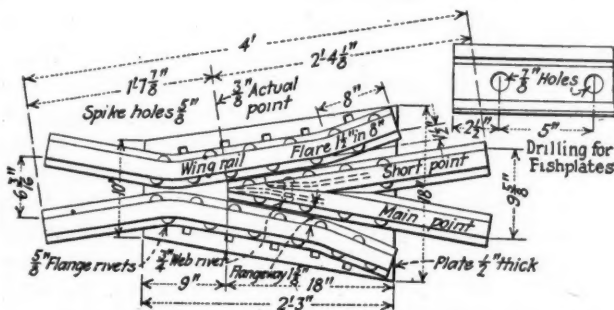


FIG. 37—No. 3 STIFF FROG FOR 40-LB. RAILS
RAIL—3 1/2-in. 40-lb. A.S.C.E. section, first quality. Drilled 2 1/2 in. x 5 in. — 1/2 in. holes. FLANGE RIVETS—1/2-in. diameter, 34 total, to be spaced about as shown. To be countersunk on bottom, flush with plate.

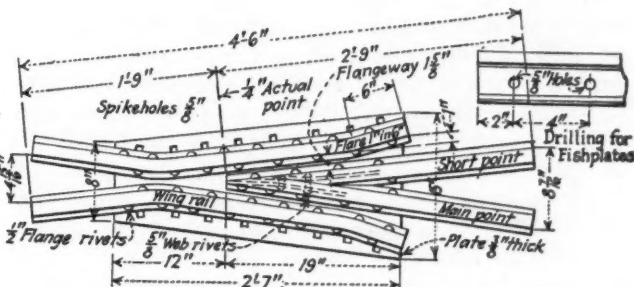


FIG. 38—No. 4 STIFF FROG FOR 20-LB. RAILS
RAIL—2 1/2-in. 20-lb. A.S.C.E. section, first quality. Drilled 2 in. x 4 in. — 1/2 in. holes. FLANGE RIVETS—1/2-in. diameter, 43 total, to be spaced about as shown. To be countersunk on bottom, flush with plate.

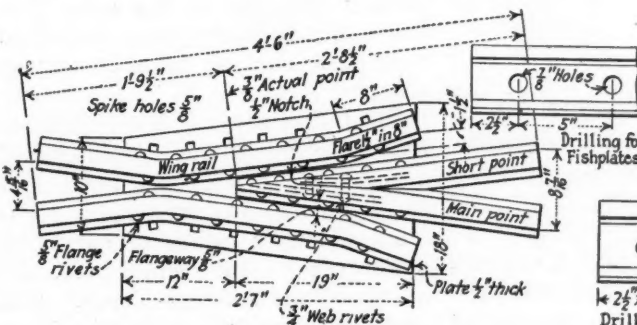
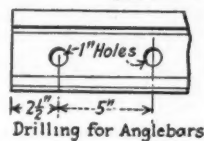


FIG. 39—No. 4 STIFF FROG FOR 40-LB. RAILS
RAIL—3 1/2-in. 40-lb. A.S.C.E. section, first quality. Drilled 2 1/2 in. x 5 in. — 1/2 in. holes. FLANGE RIVETS—1/2-in. diameter, 38 total, to be spaced about as shown. To be countersunk on bottom, flush with plate. POINT RAILS—Main point notched to take short point as shown.



Drilling for Anglebars

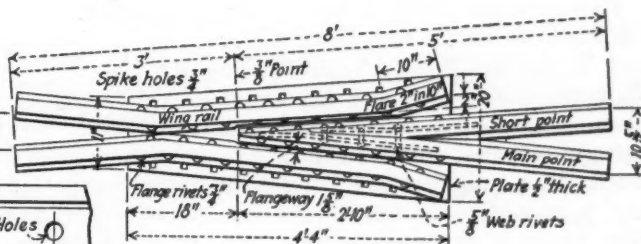
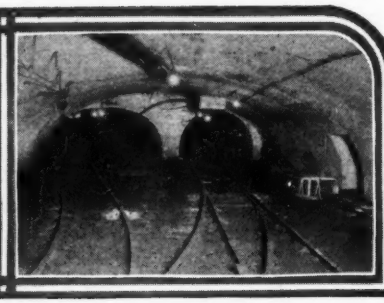


FIG. 40—No. 6 STIFF FROG FOR 60-LB. RAILS
RAIL—4 1/2-in. 60-lb. A.S.C.E. section, first quality. Drilled 2 1/2 in. x 5 in. — 1-in. holes. FLANGE RIVETS—1/2-in. diameter, 52 total, to be spaced about as shown. To be countersunk on bottom, flush with plate. POINT RAILS—Main point notched to take short point as shown.



Underground Operation



Sand Jacks in Arkansas Support Roof in Low Coal

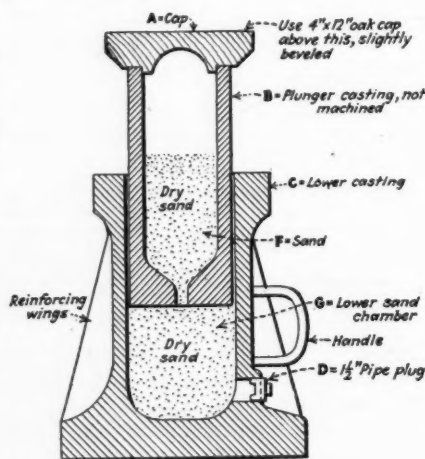
Sand jacks are being used extensively in Europe for the support of the mine roof. They are, however, probably new in this country and the following facts on the sand jacks used at the Paris mine of the Paris Purity Coal Co., in Logan County, Ark., are taken from a paper delivered by J. J. Rutledge, chief engineer, Maryland Bureau of Mines, Baltimore, Md., before the West Virginia Coal Mining Institute.

The draw slate at the Paris Mine is held by round pine props of about 12 in. diameter. Concrete blocks were used for a while as an experiment, and they seemed to give good service, but they were heavy for use in such a thin seam, the coal thickness averaging 25 in. to which must be added the size of the kerf cut by the mining machine into the bottom clay making the total depth from roof to room floor 30 in. Cribbs made of pine wood were used and appeared to have given good service but were placed only for the protection of roadways and not at the face; at this latter place props and sand jacks are the only roof supports used. The jacks were designed by the owners of the mine and manufactured by an ironworks in the neighborhood. They weigh about 300 lb. and cost \$12 each.

ONLY TWO PARTS TO JACK

They are composed of two pieces, the diameter of the foot being 15 in. and of the top 10 in. The interior diameter of the jack is 8 in., and a $1\frac{1}{2}$ in. plug in the base of the jack permits of the withdrawal of the sand. The upper part of the jack has a cross-like section with four ribs, but it is purposed to make this portion of the jack round, as it has been found that the ribs are readily broken by roof pressure when the jack is slightly out of plumb.

It has been suggested that bird shot be used instead of sand as it is said to be more compressible. Al-



Strong Yet Easy to Draw

By tapping the sand, the resistance to pressure on the head of the jack can be removed, leaving it loose for transference to any point desired. The jack will stand pressures up to 300 tons if placed on a true footing.

ready about one hundred of these jacks are in use at the Paris mine alone. The jacks can be moved ahead at any time by removing the plug and allowing the sand to escape. Each jack will hold up a pressure of 300 tons. Should the lower casting careen, however, the pressure will be thrown on one side and the jack may be broken. New designs will remedy this. Patents for the sand jack have been sought. The roof cover that the jacks support is probably 165 ft. thick, and the load about 14 tons per square foot of roof to be supported.

Track Gages and Curve Radii Should Be Carefully Chosen

American coal mines employ many different track gages. Some of these have been chosen wisely; others have been selected merely to follow precedent without any particular regard to the needs or local conditions of the mine or mines served. Many mines also are equipped with track curves of altogether too short radius for the rolling stock used. This causes much haulage delay if not

actual danger to life and damage to both cars and locomotives. In the *Employees' Magazine* of the Union Pacific Coal Co., James L. Libby treats of this phase of mining as follows:

The gage of the track is the distance between the inner sides of the balls of the rails. Any number of gages are in use in different mines, but three of the most common are 30, 36 and 42 inches.

The matter of gage should be given careful study in opening up a mine and the proper gage selected to fit existing conditions, as this dimension will be almost impossible to change after the mine attains any depth from the mouth or shaft bottom.

CONDITIONS DICTATE CAR SIZE

Local conditions govern the size and design of cars used, which in turn regulates the gage. The thickness of the seam limits the height of the entry, and the roof and floor conditions limit its width. These two factors govern the width and height of the car, hence its capacity. If both are restrictive the length may be slightly increased, but here we are confronted with the fixed axles combined with a short wheel base in use in coal mines. Cars are, therefore, seldom over 10 ft. long inside. Modern methods and machine mining tend to increase the capacities handled necessitating a wider gage. A broad gage gives greater stability to the cars, promotes a smoother action with less wear and tear on both equipment and tracks.

There is a more or less erroneous idea concerning the advantage of narrow-gage track on curves, but to all intents and purposes the minimum allowable radius of curvature is dependent on the wheel base, size of wheels and flange depth. The track gage has little to do with it, as will be more fully discussed under the subject of curves.

The main advantage of a narrow-gage track is the cost; due to the use of shorter ties, less ballast, and,

where grading must be done, the width is less. With cars of wood construction, without brakes, the overhang on the sides is limited on account of strength, also wheels must be accessible for spragging. With cars having brakes and constructed with a wood bottom and steel sides, the flare and overhang can be increased and as wide a car built for a 36-in. gage as is now commonly constructed for 42-in. gage.

ADVANTAGE OF BIG CARS

The ratio of weight of coal to weight of car is about the same for both large and small cars. The larger cars do not show any increase in per cent of coal handled as the different parts have to be made heavier, which offsets the increased capacity. The main advantage gained by use of a larger car comes from the less number of cars that must be handled to produce the required tonnage. The system of mining, method of loading and handling the cars, also limit the size of car which can be used economically. A 36-in. gage is large enough for cars that must be man handled and hand loaded, but a 42-in. gage is preferable where cars are handled mechanically and the coal is loaded by machinery.

Track should be well maintained, kept in good alignment, and to grade. Slight reverse curves, swags and bumps, swing and roll the cars, causing unnecessary jars and damage to equipment, with loss of coal. Spillage causes dirty tracks, interferes with haulage and constitutes a serious menace to safety.

CURVES OF LARGE RADIUS REQUIRED

Curves are used to make gradual the changes in direction between straight or tangent tracks, the turn-outs for entries, planes, rooms, passing or side tracks, etc. Because of the use of heavy locomotives, with long wheel bases, operated at high speed, curves of a large radius are necessary in order to obtain smooth transportation. Such curves offer less resistance than do those of a smaller radius.

Curves in mines are best designated by their radii in feet. Thus a 200-ft. curve means one wherein the center line of the track is a circle with a 200-ft. radius. A 200-ft. radius curve, on the level, offers the same resistance to movement as $\frac{1}{10}$ per cent grade, while a 100-ft. radius curve offers above the same resistance as a $\frac{1}{5}$ per cent grade. For this reason, where possible, the

grades on curves should be lightened to compensate for this resistance. The radius of a curve can be approximately determined with ease and dispatch by the following simple method of calculation.

Using a 10-ft. cord and representing the offset or mid-distance in inches to the gage of the rail at the center by m , the radius of the curve in feet equals $150 \div m$.

Thus when mid-distance is 2 in. we have as the curve radius $150 \div 2 = 75$ ft.; when the mid-distance is 3 in. we have $150 \div 3 = 50$ ft.; when the mid-distance is $1\frac{1}{2}$ in. we have $150 \div 1\frac{1}{2} = 100$ ft.; when the offset is 1 in. the radius of the curve is $150 \div 1 = 150$ ft.

On high-speed motor hauls the outer rail on the curves should be elevated above the inner one, this

height varying with the haulage speed and the gage of the track. The distance the rail should be raised may be determined by using a 20 ft. cord and taking the mid-distance from it to the gage line of the rail as the extra height. This will compensate exactly for the following rates of speed on the track gages mentioned: The mid-distance of a 20 ft. cord with a 30 in. gage compensates for a speed of $17\frac{1}{2}$ m.p.h.; with a 36 in. gage for a speed of 16 m.p.h., and with 42 gage the mid-distance for a 20-ft. cord compensates for a speed of 15 m.p.h. Rails should never be elevated more than 6 in., and for smooth action the outer rail should be gradually raised at the rate of about 1 in. in 20 ft. approaching the curve and lowered correspondingly in leaving it.

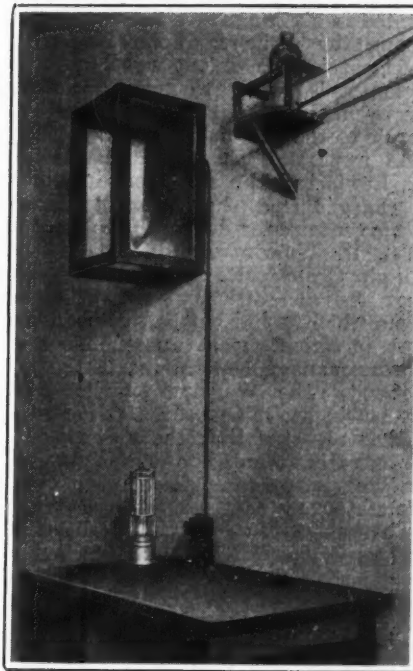
Gas Testing Apparatus Helps Train Firebosses

Training fire bosses and safety men in general, requires care and attention to detail. The detection of gas by means of the safety lamp is comparatively easy to the trained eye but in order to be trained that eye must be experienced. As a means of familiarizing the would-be fireboss with the appearance and behavior of the safety lamp flame when in the presence of gas, means must be provided in the smoke room, laboratory or elsewhere, for artificially creating a gassy atmosphere, one that will readily affect a safety lamp.

Probably the first device of this nature to be employed was the old "umbrella" or "inverted dishpan" apparatus. This consisted of an open ended metal container placed upside down into which gas could be introduced at will. This answered the purpose fairly well except that the lamp could not be viewed from the side. Furthermore in but few mining communities is natural gas available.

The accompanying illustration shows the home-made lamp testing device in use in the smoke room at one of the largest mines in this country. It consists of an open ended box with the opening down, fastened to the wall of the room. Three sides of this box are of glass. Acetylene gas is introduced into it from an old hand lamp on the desk below by means of a tube leading through a hole in the side frame.

After gas has been turned on for a short time a lighted safety lamp



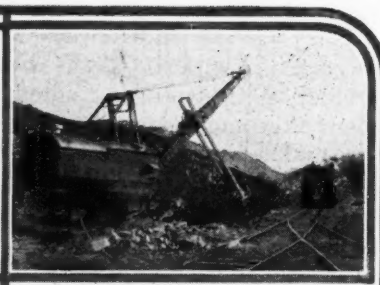
Testing Box in the Smoke Room

Three sides of this inverted open-ended box are made of glass. Gas from the acetylene lamp on the desk below the box can be introduced at will through the side of the box. Into this mixture of gas and air the lighted safety lamp can be raised the behavior of the flame being observed through the glass side of the box. Embryo firebosses thus may be carefully trained in the appearance of the safety lamp flame in the presence of an explosive mixture of gas and air.

can be raised into the box and the behavior of the flame noted through the glass side. By this means careful training in gas testing can be given under the eye and tutelage of a thoroughly experienced instructor. The management thus has the satisfaction of knowing that the men entrusted with the important work of testing the mines for gas know what to look for and know what it looks like when they see it.



News Of the Industry



Hard-Coal Wage Dispute Becomes Propaganda Battle Since Collapse Of Conference at Philadelphia

The anthracite wage controversy, following the collapse of the third joint conference at Philadelphia last week, again has settled down into a battle of propaganda. The operators are carrying the fight direct to the mine workers. A folder, explaining their final offer at the last conference, has been printed in six languages for circulation among the strikers. John L. Lewis, president of the union, went into the region this week to begin another speech-making tour to strengthen the morale of the men out of work.

As a parting shot at Philadelphia, Mr. Lewis issued a statement in which he charged that the failure to reach an agreement was due to the insistence of S. D. Warriner, president of the Lehigh Coal & Navigation Co., that there be no settlement except upon terms which would be "beneficial to the most inefficient, most uneconomic and poorest managed operations in the industry." The Warriner mines, said Mr. Lewis, are in that class. Mr. Lewis further asserted that the majority of the operators wanted to end the strike. Mr. Warriner refused to comment upon this statement.

The operators expressed disbelief that anybody would take Mr. Lewis' charge that the strike had become a lockout seriously. "Why?" asked Major W. W. Inglis, chairman of the operators' negotiating committee. "Because on the very day that it is made the operators proposed that the men go back to work with the assurance of the old wages until next April—fourteen months."

"There is another statement in his latest outgiving about which I have something to say," continued the operators' spokesman. "Mr. Lewis asserts with great fervor that he will never accept compulsory arbitration. We never even suggested that he should. We have proposed arbitration by mutual agreement and within the terms of a contract. Nothing more. He not only rejected this; he would not even agree that Justice Hughes should sit with the board of conciliation—composed of three miners and three operators—and cast the deciding vote in case of a deadlock."

On Feb. 4 Governor Pinchot journeyed to Philadelphia and conferred with the head of the mine workers' union. Neither Mr. Lewis nor the Governor would make any statement as to the nature of their discussion. On Sat-

urday, however, the Governor made another public attack upon the anthracite industry as a "hard-boiled monopoly defiant to public opinion." Governor Pinchot, in the same statement, assailed the Pennsylvania House committee on mines and mining for refusing to favor his legislative coal control program.

Mr. Warriner, in a statement issued Feb. 8, retorted that the "partisan attitude" of the Governor had obstructed the settlement of the strike and that "the responsibility for its continuance must, in a large measure, be charged to him." Mr. Warriner emphasized the fact that the latest outburst of the Governor followed closely upon the star-chamber session between the Pennsylvania executive and the president of the miners' union.

The anthracite operators' leader takes the Governor to task for charges made by the latter that the industry had mulcted the public through the new

sizing standards adopted last spring and for using only the most prosperous companies in building up a plea for regulation. Returns per ton after standardization, said Mr. Warriner, were less than before.

"The Governor," he continued, "must have been acquainted with the figures that have been made public recently by the U. S. Treasury Department in answer to S. R. 99, which show that out of 139 anthracite-producing companies, 47 earned net income amounting to approximately \$28,000,000 in 1924, while 92 companies suffered losses amounting to approximately \$7,000,000, the net results for the industry being a net income of about \$21,000,000, or less than 3 per cent on the valuation of the anthracite industry as given by the U. S. Coal Commission."

The detailed figures to which Mr. Warriner refers appear elsewhere in this issue of *Coal Age*.

Creation of a permanent State Anthracite Coal Supply Commission to take over the direction of the operation of anthracite mines in time of strike was provided in a bill introduced in the Pennsylvania Senate Monday night (Feb. 8) by Senator Charles Steel, of Northumberland County.

Publicity on Costs, Profits and Living Conditions Is Best Safeguard Against Strikes, Says Hammond

"The best way to minimize the danger of strikes and to insure the delivery of the right kind of coal, and at the right price to the consumer, is through the adoption by Congress of the U. S. Coal Commission's report of Sept. 23, 1923," declares John Hays Hammond, chairman of the commission, in a communication to the American Bankers Association *Journal* published Feb. 9.

"In its report the Commission expressed the belief that the . . . moral influence exerted through publicity is an important safeguard of the interest of the public."

"Publicity as to the quality of coal in interstate commerce would greatly deter unscrupulous operators and dealers from the sale of fireproof, adulterated and otherwise unsuitable coal. Publicity as to the cost and profits of the operators, transportation charges, the profits of wholesalers and retailers would enable the consumer to judge whether a fair or an exorbitant price is being charged for his coal."

Publicity as to earnings, living conditions and living costs of the miners would enable the public to form a judgment as to the equities of disputes between operators and miners over the renewal of wage agreements; and informed public opinion at such times would exert a deterrent influence upon the adoption of an unreasonable attitude by either or by both parties to the controversy and thus tend to prevent a lockout or a strike.

"All these facts change from season to season and vary from district to district and from mine to mine, and the public is entitled to know them since the transportation of coal in interstate commerce is so affected by the public use and coal enters so intimately into all the necessities and conveniences of modern life—indeed being out-ranked in importance only by food and water—that there is no longer any private right to secrecy as to such matters as costs, profits, wage rates and working and living conditions in the industry."

Clairton Byproduct Plant To Add 300 Ovens

Addition of 300 coke ovens at the Clairton byproduct plant of the Carnegie Steel Co. is contemplated and the plans have progressed so far that the awarding of the contract for the installation impends. The improvement will involve an outlay of more than \$3,000,000 and work will probably get under way this spring.

When first constructed, the plant consisted of 768 ovens, and a few years ago an addition of 366 ovens was made. The proposed addition will bring the aggregate to 1,434 ovens—the largest byproduct unit in the world.

At present the blast furnaces in the neighborhood of the Clairton plant are supplied with coke from that source, while outlying furnaces get coke from the H. C. Frick Coke Co.'s beehive ovens in the Connellsville and Westmoreland districts.

Three towing steamers and seventy barges also are to be purchased for use on the Monongahela River in transporting coal from mines to the extension of the Clairton plant.

Roads Install 128,557 Cars In 1925; Orders Decline

Class I railroads of the United States installed in service 128,557 freight cars in 1925, according to the Car Service Division of the American Railway Association. This was a decrease of 27,857 cars from the number installed in 1924 and of 69,318 cars from the 1923 total. Of the equipment placed in service during the last year 48,670 were coal cars, 61,140 box cars and 5,761 refrigerator cars.

Freight cars on order on Jan. 1 last totaled 40,794, including 15,568 coal cars, 21,380 box cars and 1,781 refrigerator cars. On Jan. 1, 1925, Class I railroads had 55,684 freight cars on order and on Jan. 1, 1924, they had 25,619 on order.

During 1925 Class I railroads placed in service 1,733 locomotives compared with 2,246 in 1924 and 4,037 in 1923. The same roads on Jan. 1, 1926, had 471 locomotives on order compared with 287 on Jan. 1, 1925, and 510 on the same date in 1924.

These figures include new, rebuilt and leased equipment.

Japan May Erect Coal Piers Like Those at Sewalls Point

Coal piers to be erected by the Japanese Government on the Island of Hokkaido probably will be patterned after the piers of the Virginian Ry. at Sewalls Point. Kenege Nakamura and H. Suzuki, representatives of their government, were in Norfolk recently, inspecting the piers and taking drawings of their operations. They stated that the Sewalls Point piers were the finest they had seen, and they left here to inspect coal-handling facilities at Baltimore. It is desired to increase the dumping capacity of the Japanese piers from 5,000 to 10,000 tons a day. The Japanese representatives visited various European coal ports before coming to America.



The Late Col. D. B. Wentz

Blasts at Pittsburgh Mines; To Open Euclid Plant

State police are investigating two explosions at the Warden Mine, at Scott Haven, Pa., Feb. 2. Bombs are believed to have been responsible for the blasts. Officials of the Pittsburgh Coal Co., which owns the mine, state that though the shock of both explosions was felt for several miles, no one was injured. The Warden Mine is one of the largest operated by the Pittsburgh company, employing about 250 men since operations were resumed about a month ago on the 1917 scale.

On Feb. 1 the fan house was dynamited and considerably damaged at the same company's Montour No. 4 Mine, at Hill Station, Washington County, Pa. This mine also is working under the 1917 scale.

The Pittsburgh Coal Co. is preparing to open Euclid Mine, four miles from West Newton, in Westmoreland County, according to an announcement made last week. The mine will be the eighth of the company in the Pittsburgh district to operate under the November, 1917, scale. Men will go to work in the mine within two weeks, it was stated.

Czechoslovak Coal Output Off 15 per Cent in 1925

Czechoslovakia produced 12,753,000 tons of coal in 1925 as against 14,359,000 tons in 1924, a decrease of 11 per cent, according to a cable to the Department of Commerce from Commercial Attaché J. F. Hodgson, Prague. Output of lignite in 1925 was 18,787,000 tons compared with 20,507,000 tons in 1924, a decrease of 8 per cent. These decreases were almost wholly in the first half of the year. Coke output totaled 1,774,000 tons as compared with 2,219,000 tons in 1924, a drop of 20 per cent in 1925.

Colonel Wentz, Well Known Operator, Dead at 52

Colonel Daniel Bertsch Wentz, one of the best known coal operators in the country, and president of the American Mining Congress, died Feb. 9 at his home in Wyncote, Pa. He was fifty-two years old.

Colonel Wentz, who as president of the Stonega Coke & Coal Co., the General Coal Co. and the Hazle Brook Coal Co., maintained his offices in the Land Title Building, Philadelphia, also was a director of many coal companies and banks, among them the Virginia Coal & Iron Co., the Franklin National Bank and the Fidelity Trust Co. A few years ago the General Coal Co. absorbed the Wentz Coal Co., founded by Colonel Wentz's father, the late John S. Wentz. Colonel Wentz was president of the National Coal Association in 1920-21.

In January, 1918, General Goethals selected Colonel Wentz to take charge of the fuel and forage division of the Quartermaster Department. Previous to this he had been one of the "dollar a year men" in Washington and had been assistant to Francis S. Peabody, chairman of the coal committee of the Council of National Defense. For his services with the Quartermaster Corps Colonel Wentz received the Distinguished Service Cross and also was honored by France with the rank of Chevalier of the Legion of Honor.

On Dec. 12, 1923, Colonel Wentz received one-half of his father's estate, valued at \$5,886,204. He was a graduate of Harvard and prominent in the social life of Philadelphia.

Changes Made in Coal Work Of Bureau of Mines

Changes were made in the work of the Coal Division of the Bureau of Foreign and Domestic Commerce, effective Jan. 1, 1926, whereby all questions relating to domestic trade in coal and other matters pertaining to the domestic coal industry are being handled by the Coal Division of the Bureau of Mines, and the personnel of the Coal Division of the Bureau of Foreign and Domestic Commerce which has been engaged in such domestic work has been transferred to the Bureau of Mines.

All questions relating to promotion of the American coal export trade, and in general all matters concerning foreign trade in coal and coke, formerly handled by the Coal Division, will be taken care of until further notice by the Minerals Section of the Bureau of Foreign and Domestic Commerce, under the direction of Homer S. Fox, who also will continue in charge of foreign trade promotion in petroleum and other minerals, the Coal Division as such being discontinued in this Bureau.

The monthly statement on the overseas coal trade, special circulars covering foreign trade in coal, assistance rendered in connection with special inquiries to the Bureau on the exporting of coal, and similar services formerly rendered by the Coal Division, will continue to be available through the Minerals Section of this Bureau.

Explosion Following Fire Kills 19 in Horning Mine; Rock Dust Limits Effects

Nineteen men were instantly killed on Feb. 3 by an explosion in No. 4 mine of the Pittsburgh Terminal Coal Corp., at Horning, about 10 miles south of Pittsburgh, Pa. The explosion occurred at about 4 p.m. as the result of a fire which had started at about 10:30 a.m. at the face of Butt 16 in Sec. 4. This entry and Butt 15, which together constitute a pair, were being developed, but no rooms had been turned from them. Headed by General Superintendent H. M. Ernst, the men who lost their lives in the explosion were engaged in sealing off the fire zone.

Sec. 4 is served by Face Entries 7, 8 and 9. Of the room entries in this section Butts 15 and 16 were furthest inby and had been extended about 450 ft. from the nearest of the face entries and a distance of about 2½ miles from the hoisting shaft and 3,000 ft. from an airshaft.

The fire was started by a shortwall cutting machine which at the time was sumping out of a cut in a clay vein. The cut opened a feeder of gas, which obviously was ignited by arcing or sparking on or within the machine. The flame jumped to oil and dust on and about the machine. Efforts to beat out the flame by the cutters and an assistant foreman who was present during the cutting were futile. The cutter was of the so-called closed, but not of the government-approved, type.

Unable to Reach 16 Victims

Brattice and board stoppings were erected both on the intake and return butts at points about 70 ft. from the respective faces, inclosing also a cross-cut between these entries. A mortar-brick wall had been erected behind the temporary stoppings in the intake butt and a similar wall in the return was nearing completion when the explosion occurred.

Prior to the time of this dispatch the rescue teams had not been able to reach 16 victims in the fire area of Butts 15

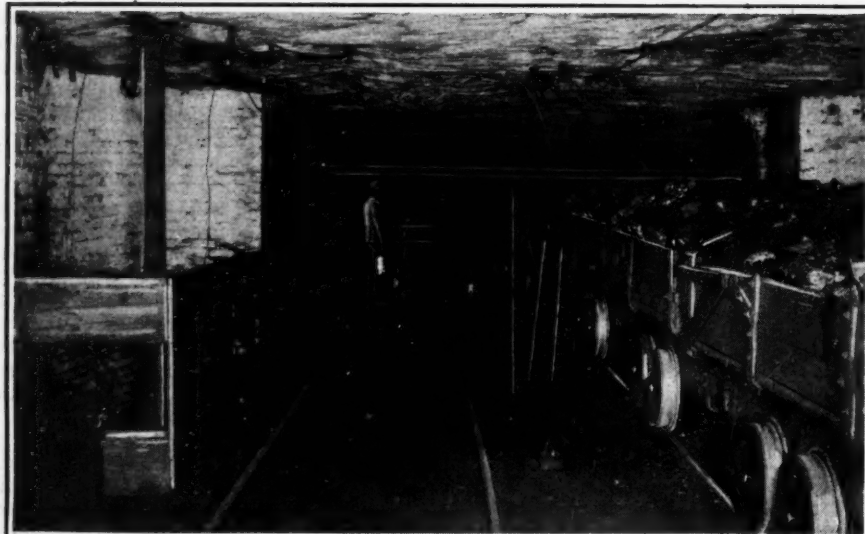


Tipple of Pittsburgh Terminal Coal Corp. No. 4 Mine, Where Nineteen Men Lost Their Lives

and 16 which has been sealed off by three walls in the face entries. Three bodies were found on the face entries, outby of these butts.

Officials of the company and rescue men believe that rock-dusting confined the explosion to comparatively narrow limits. The intake entries of the mine were thoroughly rock-dusted to the faces, but the returns were not. Rock dust had not yet been applied to Butts 15 and 16.

The blast displayed its greatest force in the return face entry of Sec. 4, which, of course, was not rock-dusted. The explosion was checked after traveling several thousand feet, meanwhile extending with diminishing force into Butts 13 and 14 off this return, crossing over to Butts 13 and 14 of Sec. 3, adjoining, and demolishing two stoppings which closed the latter butts from Sec. 4. The force in Sec. 3 was not marked as evidenced by the fact that two men at work in that area escaped to the airshaft.



Shaft Bottom of Ill-Fated Mine

The man with the flame safety lamp is George Travis, superintendent, who was among those who perished in the fire and explosion.

Coal Men of All Ohio Fields Organize to Save Industry

The first all-Ohio organization of coal operators came into being at a meeting in Cleveland Jan. 29, with the appointment of a committee representing the four major fields. It will lay plans for a bureau to tackle the freight rate situation, which operators say discriminates in favor of the mines of lower West Virginia and Kentucky to such an extent that the latter fields have taken the coal trade away right on the doorsills of the Ohio mines.

All fields in the state had representatives present. These were appointed to arrange for the bureau and report at another meeting within a month:

Percy Sprague, of the M. A. Hanna Co., Cleveland, and Fred Braggins, of the Lorain Coal & Dock Co., Columbus, representing eastern Ohio; H. D. Thomas, of the George M. Jones interests, Toledo, and W. E. Tytus, of the Sunday Creek Coal Co., Columbus, representing the Hocking Valley; J. L. Good, of the National Coal Co., Cleveland, and J. Gaines, of the Cambridge Collieries Co., Cleveland, representing the Cambridge seam, and C. L. Terry, of the Midvale-Goshen Coal Co., Cleveland, and N. E. Thomas, of the Akron coal Co., Akron, representing the middle district.

Ezra Van Horn, president of the Pittsburgh Vein Operators' Association, presided. W. H. Haskins, of Coshocton, advocated dropping "jealousies and differences which have split the coal industry in the past" and forming a state organization and united front on freight rate questions.

Sealed proposals will be opened by the Supt. of Lighthouses, Staten Island, N. Y., at 2 p.m., Feb. 18, 1926, for approximately 1,800 tons bituminous coal, in quantities as required from April 1 to June 30, 1926, delivered and trimmed into bunkers of lighthouse vessels, under coal chute at contractor's pocket, New York.

Federal Non-Intervention in Strike Proves Popular Policy

By Paul Wooton

Washington Correspondent of Coal Age

After having shed more darkness than light on retail coal prices the Senate's District of Columbia committee has recessed its "informal" hearings while it tries to persuade the Comptroller's office to undertake some fact-finding in the account books of Washington coal dealers. Rather violent reverberations in the Senate and House keep Congress reminded that there still is a coal situation, but it is apparent that the conflict again has narrowed to the operators and miners themselves. Activities in the other theaters of operation have all but ceased. Evidence continues to pile up that the administration has pursued a very popular course in refusing to intervene. It is certain that executive officials will not allow themselves to be drawn in now that the popularity of their policy is established.

Judging from information reaching Washington, the miners are fighting with their backs to the wall. The desire for peace among the mine workers is becoming so strong that none will be surprised to see a break in their ranks at any time. The leaders still are putting up a bold front but they have surrendered their demands one by one. In accepting the Pinchot proposal they gave up the demand for increased wages, despite the face-saving clause referring to an increase if conditions should warrant. In accepting the Lynett plan they gave up the check-off. It was the mine workers who asked for a resumption of negotiations when the rejection of the Lynett plan was made perfectly plain.

Urge Insistence on Arbitration

Everything has been conceded except the principle of arbitration. The operators are being encouraged to insist on such an understanding by the increasing evidence of public approval and of its willingness to wait until a permanent settlement is reached.

The action of the Pennsylvania Legislature in reporting the Pinchot bills unfavorably, rather than allowing them to die in committee, is regarded in Washington as a sort of grudging courtesy to the Governor—a courtesy that probably would have been withheld had there been any chance of the measures going through.

There seems no chance, however, that Harrisburg can command enough pressure to cause the operators to abandon the firm stand they have taken to insure continuity of production while differences are being threshed out.

The demand of Representative Boylan for the seizure of mines is not regarded seriously. With the end of winter in sight it is increasingly plain that Congress will not attempt to act in the anthracite crisis.

It is expected that the operators will make no new move in the near future. With the coal year so nearly gone the operators have little to gain by a set-

tlement just at this time. So far as their interests are concerned they can wait until May without jeopardizing any of their next winter's business.

There are some who, while admitting that the advantage now rests with the operators, think the ability of the union to hold out is being underestimated. They point out that there have been strikes in which the men, less favorably situated than the anthracite workers, have held out for longer periods. A comparatively recent instance was the fifteen-months strike in eastern Ohio in 1914 and 1915, which finally ended in the mine-run basis of payment.

Largely because of its political possibilities, the Copeland resolution gained sudden and unexpected strength Saturday. It was apparent that the Democrats had decided to make the measure a partisan one. It has vote-getting possibilities and promises to embarrass the administration.

Coolidge Not Likely to Intervene

There is no reason to think the President will act on the suggestion that he "invite to the White House the committee of coal operators and miners in order that he may urge upon them the national importance of an immediate settlement of the anthracite coal strike."

The attempt to force the federal executive to intervene in a controversy involving production within a single state, somewhat at variance with Democratic principles did not pass without drawing a warning from Senator King, Utah's Democratic Senator. He pointed out "that the people of Pennsylvania and the Legislature of Pennsylvania should deal with this question."

Senator Reed, of Pennsylvania, presented the following telegram from Whitney & Kemmerer:

Newspaper reports of this morning state that Senator Copeland, of New York, addressed the Senate yesterday on the coal situation and stated that the people in New England are freezing to death on account of fuel shortage. Investigation does not bear out these facts. The public are responsible for the shortage of coal, if any, in New England, for they had opportunities to secure fuel at any time during the past three months. As operators of union mines in central Pennsylvania, as well as on the Bessemer & Lake Erie Railroad, working under the Jacksonville scale, owing to our inability to receive a price sufficient to cover our costs of production we are working only three days a week. We can offer from 50,000 to 100,000 tons of run-of-mine bituminous coal to any responsible dealer that Senator Copeland may designate at a price of \$2.50 free on board mines on Clearfield rate of freight delivery before April 1, 1926.

A bill proposing the creation of a board of industrial adjustment also was made a party bill and was introduced by Senator Robinson, the minority leader. It was referred to the committee on Education and Labor.

The board would be empowered to conciliate differences, encourage arbitration and do general fact-finding so as to recommend means that can be

Rush Coal to Jail Lest Murderers Freeze

Fred Heitzman, of Castner, Curran & Bullitt's branch office in Cincinnati, received the following letter from a large jobbing concern in Toronto, Ont., on Jan. 20:

"We wish you would make an effort to ship the order to Sharon McKay, Cochrane (Ont.) Jail. He is very short of coal, and as he has three or four murderers on hand he is afraid they will freeze to death before he has a chance to hang them."

The coal was speeding on its way within a few hours after the letter was received.

employed to remove the cause of strikes.

The proposed board is to be composed of the Secretary of Labor, the Secretary of Commerce, the Director of the Bureau of Mines and two disinterested citizens. The board will be convened by the President in case of an emergency.

While the coal question was engaging the attention of the Senate on Saturday Representative Watres, Republican, Pennsylvania, introduced a resolution in the House inviting conferences of the miners and operators with the Secretary of Labor sitting in as a mediator.

German Coal Industry Has Favorable Balance for 1925

Output of coal in Germany during December, according to Acting Commercial Attaché D. P. Miller, reached 11,367,000 tons; lignite, 12,712,000 tons, and coke, 2,234,000 tons. Totals for the year 1925 were: Coal, 132,729,000 tons; lignite, 139,790,000 tons, and coke, 26,810,000 tons. The figures show a substantial increase over the previous year and also an estimated favorable balance on coal shipments of 225,000,000 marks. Ruhr stocks remain unchanged while imports of British coal have been declining since October.

The U. S. Civil Service Commission announces open competitive examinations for mining engineer, \$3,800; associate mining engineer, \$3,000; assistant mining engineer, \$2,400, to fill vacancies in the Bureau of Mines, for duty in Washington, D. C., or in the field. Receipt of applications will close March 9. Advancement in pay may be made without change in assignment up to \$5,000 a year for mining engineer, \$3,600 for associate mining engineer, and \$3,000 for assistant mining engineer. Applicants must qualify in coal mining engineering, metal mining engineering, non-metallic mining engineering, or some specialized line of mining. Competitors will not be required to report for examination at any place, but will be rated on their education, experience, fitness, and writings to be filed with the application. Full information and application blanks may be obtained from the Civil Service Commission, Washington, D. C., or at the post office or custom house in any city.

November Coal Output in Canada Exceeds Average

Output from Canadian coal mines during November, 1925, was 1,649,686 tons as against 1,570,379 tons in October and an average of 1,642,786 tons for the month during the five preceding years.

Alberta and Saskatchewan were the only provinces which showed gains in output in November over the preceding month, while Nova Scotia and Saskatchewan showed increases over the average for the month in the five preceding years. British Columbia's production was just equal to the average for the month in the five preceding years.

Total importation of coal in November was 1,387,373 tons as compared with 1,658,501 tons in October and the five-year average for November of 1,974,196 tons. Receipts of coal from Great Britain during the month were 34,727 tons. For the first eleven months of 1925 the total imported into Canada was 15,485,211 tons, or 8 per cent below the preceding five-year average for the period.

Exports of Canadian coal in November totaled 82,946 tons; October, 99,846 tons. Comparison of the November exports with the preceding five-year average showed a decrease of 36 per cent. Total exports for the year to date amounted to 669,325 tons, or 59 per cent less than the five-year average.

More Coal and Oil Consumed By Utilities in December

Public utility power plants consumed more coal and fuel oil in December than in November, according to a report of the U. S. Geological Survey. In December utilities consumed 3,764,934 net tons of coal, compared with 3,470,439 tons in November, as shown by revised figures. Fuel oil consumption by utilities for December totaled 817,548 barrels, compared with 793,387 barrels in November.

More electricity was generated for public use by public-utility power plants in the United States in December, 1925, than ever before in any one month. The total amount of electricity generated passed the 6,000,000,000 kw.-hr. mark for the first time, with a total of 6,108,000,000 kw.-hr. for the month—an average daily output of 197,000,000 kw.-hr., an increase of 2 per cent over the average rate for November.

The total output for 1925 was nearly 66,000,000,000 kw.-hr., an increase of more than 11 per cent over the output for 1924.

W. H. Sawyer, Columbus, Ohio, president of the East St. Louis & Suburban Railway Co. and a prominent engineer in the electrical industry of the United States, has been selected to make a survey of electric power resources that give promise of working a radical economic improvement in Australia. He sailed for Australia Feb. 2 as he was officially appointed by the Government of the State of Victoria, Australia. The official notification bears the following: "To investigate and report on the Yallourn brown-coal electricity-generation scheme and connected power undertakings."

Heavy Losses by Many Producers Of Anthracite Are Revealed in Income-Tax Returns for 1924

Profits and losses of anthracite mining companies in 1924 are revealed in a report of federal income tax returns for that year submitted to the Senate Feb. 3 by Secretary Mellon in response to a resolution by Senator La Follette, adopted early in January. The list includes 159 mining companies, embracing over 95 per cent of production in this field. Net losses were reported by

the majority. The data are from returns as originally filed by the corporations and prior to audit by the Treasury Department.

The larger companies showed heavy incomes, but also heavy allowances for depletion and depreciation, which resulted in bringing down the amount of tax that had to be paid. The figures for the principal concerns were as follows:

Concerns Engaged Solely in Mining Anthracite Reporting on Calendar-Year Basis

	Capital Stock—		Net	Net	Federal	De-	De-
	Common	Preferred	Income	Loss	Income	pletion	preciation
American Coal Exchange, Inc., Childs, Pa.	\$20,000				\$9,663		\$2,579
Beaver Valley Coal Co., Wilkes-Barre, Pa.	1,200				11,347		
Carbondale Anthracite Collieries, Scranton, Pa.	30,000	\$400,000					
Carbondale Coal Mining Co., Carbondale, Pa.				2,601			
Central Coal Co., Wilkes-Barre, Pa.	185,000			119,882		\$661	46,479
East Alden Mining Co., Wilkes-Barre, Pa.	42,650			4,924			6,000
East Point Coal Co., Scranton, Pa.	50,000			107,844			
The Enterprise Coal Co., Scranton, Pa.	750,000	856,311		125,770			8,219
Evans Colliery Co., Beaver Meadows, Pa.	100,000		\$67,345		\$8,418	12,323	11,072
Exeter Coal Co., Pittston, Pa.			6,316		539	7,125	2,263
John Gibbons Coal Co., Scranton, Pa.	25,000		44,675		5,584		
Greenridge Coal Co., Scranton, Pa.	200,000			52,765			23,184
Haddock Mining Co., Wilkes-Barre, Pa.	500,000		3,378		217		
Harris Denby Coal Co., Pittston, Pa.	40,000			10,079		2,151	5,434
Hazle Brook Coal Co., Philadelphia, Pa.	2,780,400	1,786,000		254,137			239,000
Humbert Coal Co., Inc., Jessup, Pa.	700,000			48,385			
The Lackawanna Coal Co., Ltd., Scranton, Pa.	50,000			56,782		44,430	
Laurel Coal Mining Co., Connellsville, Pa.	200,000			6,496			
George F. Lee Coal Co., Wilkes-Barre, Pa.	75,000			70,212			25,575
Locust Mountain Coal Co., Philadelphia, Pa.	788,000	350,000	116,411		14,551		96,058
The Miners Mills Coal Mining Co., Plains, Pa.				9,965		2,274	6,633
Mount Jessup Coal Co., Ltd., Pecksville, Pa.	200,000			421,165			95,039
Murray B. Coal Co., Philadelphia, Pa.	100,000	50,000		271			
Murrin Coal Co., Carbondale, Pa.	100,000			29,032		9,815	17,278
Nay Aug Coal Mining Co., Dunmore, Pa.	96,400			61,236		11,412	8,114
Northern Anthracite Coal Co., Lopez, Pa.	150,000			91,858		7,757	43,027
Park Hill Coal Co., Scranton, Pa.	30,000		33,848		4,231		13,253
Pittston Coal Mining Co., Pittston, Pa.	100,000		22,217		2,527		31,944
Plymouth Red Ash Coal Co., Plymouth, Pa.	10,000			44,068		939	4,695
Price-Panecost Coal Co., New York, N. Y.	200,000			87,845		62,068	86,671
Quinn Coal Co., Scranton, Pa.	10,000			14,198			9,323
Racket Brook Coal Co., Carbondale, Pa.	300,000		9,650		956	6,617	34,710
Raub Coal Co., Luzerne, Pa.	100,000			32,955		6,529	13,887
Richmond Coal Co., Carbondale, Pa.	30,000		1,105				23,710
Roaring Brook Coal Co., Scranton, Pa.	50,000			908		4,173	1,444
The Saint Clair Coal Co., Scranton, Pa.	150,000		28,697		3,587	17,337	76,230
Scranton Anthracite Coal Co., Scranton, Pa.	27,500		26,953		3,369	9,200	13,140
Sherman Coal Corporation, Pottsville, Pa.	25,000		27,890		2,672		14,578
Shipman Coal Co., Bethlehem, Pa.	300,000	240,000		187,448			35,515
Spencer Coal Co., Dunmore, Pa.	150,000			27,900		18,167	26,192
Sullivan & Flynn Coal Mining Co., Wilkes-Barre, Pa.	72,000		16,768		1,846	3,020	13,721
Thornton Co., Scranton, Pa.	416,000			26,115			10,188
Traders Coal Co., Scranton, Pa.	240,000			103,360		777	21,136
Wolf Collieries Co., Inc., Wilkes-Barre, Pa.	30,000			6,284		3,392	
Yatesville Coal Co., Pittston, Pa.	5,000		7,141		643		778
Red Haven Coal Co., Scranton, Pa.	160,401			38,899			6,990
Tip Top Coal Co., Scranton, Pa.	31,275	72,100		42,219		1,714	907
Boland Bros., Inc., Scranton, Pa.				15,242			
Carney & Brown Coal Co., Dunmore, Pa.	20,000			28,282			1,416
Lincoln Coal Co., Scranton, Pa.	54,000			17,272			5,290
Superior Anthracite Coal Co., Scranton, Pa.	500,000			18,370			1,379
Fair Coal Co., Scranton, Pa.	23,000			3,692		857	6,203
East Boston Coal Co., Kingston, Pa.	129,570			123,507		27,151	36,127
Suffolk Anthracite Collieries, Scranton, Pa.	2,522,418	1,150,000		1,104		127,775	89,828
West End Colliery Co., New York, N. Y.	480,000			127,178	15,897	50,429	127,788
Mid City Coal Co., Scranton, Pa.	445,000			40,997		16,365	20,732

Concerns Engaged in Mining and Washing Anthracite

	Capital Stock—		Net	Net	Federal	De-	De-
	Common	Preferred	Income	Loss	Income	pletion	preciation
Alden Coal Co., Alden Station, Pa.	\$1,000,000			\$64,924			\$36,745
Buck Run Coal Co., Minersville, Pa.	200,000	\$205,500		176,143			61,866
Clifford Coal Co., Scranton, Pa.	20,000			24,049			16,988
Kingston Coal Co., Kingston, Pa.	1,000,000		\$453,656		\$56,707	\$44,573	132,812
Glen Alden Coal Co., Scranton, Pa.	4,225,595		7,809,069		976,134	2,474,985	1,118,994
The T. F. Quinn Coal Co., Scranton, Pa.	10,000			94,103			11,910
Susquehanna Collieries Co., Philadelphia, Pa.	2,336,800	600,000		315,830		385,756	1,278,342

The Lehigh Valley Coal Co., Philadelphia, which is listed under "concerns engaged in mining anthracite in addition to other activities," reported common stock of \$9,465,000; net income, \$3,142,456; total federal income tax, \$392,807; depletion, \$1,249,338; depreciation, \$1,175,848.

Concerns Engaged Solely in Mining Anthracite, Reporting on Fiscal-Year Basis or for a Part of the Year Only

	Capital Stock		Net Income	Net Loss	Federal Income Tax	Depletion	Depreciation	Remarks
	Common	Preferred						
Candlemas Collieries Co., Wilkes-Barre, Pa.	\$1,000,000					\$22,663	\$174,470	Fiscal year Sept. 1, 1923, to Aug. 31, 1924.
Connell Anthracite Mining Co., Scranton, Pa.	1,078,860			\$159,442		2,324	18,007	Fiscal year Apr. 1, 1924, to Mar. 31, 1925.
East Bear Ridge Colliery Co., Scranton, Pa.	625,000			72,576		13,915	51,906	Fiscal year ending Sept. 30, 1924.
Grand Tunnel Coal Co., Scranton, Pa.	200,000	\$550,000	\$109,185		\$13,648		23,487	Fiscal year Dec. 1, 1923, to Nov. 30, 1924.
Northumberland Collieries, Inc., Bryn Mawr, Pa.		213,800		7,019				Fiscal year June 1, 1924, to May 31, 1925.
Sloeum Hollow Coal Co., Scranton, Pa.	50,000		81,679		10,210	36,322	1,613	Fiscal year ending July 31, 1924.
Spring Run Collieries Co., Wilkes-Barre, Pa.	25,000			12,184		2,461	5,086	Fiscal year Sept. 1, 1923, to Aug. 31, 1924.
Clift Coal Co., Wilkes-Barre, Pa.	231,000			13,028				Part year Oct. 16 to Dec. 31, 1924.
Legitts Creek Anthracite Co., Scranton, Pa.	1,500,000	1,000,000		84,553		94,003	49,000	Part year, Apr. 1 to Oct. 31, 1924.
South Penn Collieries Co., Scranton, Pa.	1,629,892	1,163,500		230,291		32,828	17,672	Part year, June 23 to Dec. 31, 1924.
Temple Coal Co., Scranton, Pa.	1,000,000	1,877,959	11,904		1,301	179,771	88,784	Part year, Jan. 1 to Sept. 30, 1924.
Von Storch Collieries Co., Scranton, Pa.	5,000			244,897		82,695	29,508	Part year, Jan. 1 to Nov. 24, 1924.
Temple Anthracite Coal Co., Scranton, Pa.	519,289	2,000,000	3,933		429	59,668	44,572	Part year, Oct. 1 to Dec. 31, 1924.
Lackawanna Valley Fuel Co., Throop, Pa.	250,000	2,700		49,985			14,150	Fiscal year.
Shamokin Colliery Co., Wilkes-Barre, Pa.	250,000	250,000		37,050			80,593	Part year, May 26 to Dec. 31, 1924.

Subsidiary Concerns; Data Reported in Consolidated Income-Tax Returns

	Capital Stock, Common	Net Income	Net Loss	Depletion	Depreciation
Scranton Coal Co., New York, N. Y. (contained in consolidated return of New York, Ontario & Western R. R.)	\$200,000			\$171,302	\$48,938
*Elk Hill Coal & Iron Co., New York, N. Y. (contained in consolidated return of New York, Ontario & Western R. R.)	60,000			39,408	39,644
Central Pennsylvania Quarry, Stripping & Construction Co., Hazleton, Pa. (contained in consolidated return of Pennsylvania Quarry, Stripping & Construction Co.; Benjamin Iron & Steel Co.)	600,000	\$68,734			48,464
Jeddo-Highland Coal Co., Jeddo, Pa. (contained in consolidated return of Jeddo-Highland Coal Co.; Jeddo Supply Co.; Jeddo Tunnel Co.)	5,000,000	313,868		97,395	602,278
Pardee Bros. & Co., Inc., Latimer Mines, Pa. (contained in consolidated return of Pardee Bros. & Co., Inc.)	2,500,000	26,439		61,367	91,869
Coxe Bros. & Co., Inc., New York, N. Y. (contained in consolidated return of Lehigh Valley R. R. Co.)	2,910,150	1,344,703		163,136	272,901
*New York & Middle Coal Field R. R. & Coal Co., New York, N. Y. (contained in consolidated return of Lehigh Valley Railroad Co.)	1,216,325	79,406		31,666	
The Lehigh Coal & Navigation Co., Philadelphia, Pa. (contained in consolidated return of the Lehigh Coal & Navigation Co.)	29,243,400	63,509		480,053	1,045,802
Alliance Coal Mining Co., Philadelphia, Pa. (contained in consolidated return of the Lehigh Coal & Navigation Co.)	2,250,000		273,223	26,251	113,023
Cranberry Creek Coal Co., Philadelphia, Pa. (contained in consolidated return of the Lehigh Coal & Navigation Co.)	1,000,000	222,264			120,740
Lehigh Coal & Navigation Co. of New England, Philadelphia, Pa. (contained in consolidated return of the Lehigh Coal & Navigation Co.)	200,000	496,052			9,248
Harleigh Brookwood Coal Co., Philadelphia, Pa. (contained in consolidated return of Madeira, Hill & Co. and affiliated companies)	1,000,000		886,307	51,781	187,935
Colonial Colliery Co., Philadelphia, Pa. (contained in consolidated return of Madeira, Hill Co. and affiliated companies)	2,200,000		648,779	108,375	116,368
*Silver Lake Coal Co., Philadelphia, Pa. (contained in consolidated return of Madeira, Hill & Co. and affiliated companies)	300,000		10,650		
The Philadelphia & Reading Coal & Iron Corp., Philadelphia, Pa. (contained in consolidated return of the Philadelphia & Reading Coal & Iron Corp. and affiliated companies)	5,600,000		52,516	1,102,615	
†Trevorton Colliery Co., Cleveland, Ohio (contained in consolidated return of J. P. Burton Coal Co.)	28,125	38,677		17,670	4,205
†Thouren Coal Co., Cleveland, Ohio (contained in consolidated return of J. P. Burton Coal Co.)	50,000	88,704			
Lehigh & Wilkes-Barre Coal Co., Wilkes-Barre, Pa. (contained in consolidated return of Lehigh & Wilkes-Barre Corp.)	16,917,500	6,732,282		1,207,985	732,708
Lehigh & Wilkes-Barre Coal Co. of New Jersey, Wilkes-Barre, Pa. (contained in consolidated return of Lehigh & Wilkes-Barre Corp.)	50,000	4,781			
Lehigh & Wilkes-Barre Coal Co. of Massachusetts, Wilkes-Barre, Pa. (contained in consolidated return of Lehigh & Wilkes-Barre Corp.)	300,000		19,467		34,057
Lehigh-Luzerne Coal Co., Wilkes-Barre, Pa. (contained in consolidated return of Lehigh & Wilkes-Barre Corp.)		(1)	(2)		
Pine Hill Collieries Co., Minersville, Pa. (contained in consolidated return of Pine Hill Collieries Co.)	317,123		164,060	19,318	14,767
Pine Hill Coal Co., Minersville, Pa. (contained in consolidated return of Pine Hill Collieries Co.)	250,000		400,092	23,811	24,027
†Hillside Coal & Iron Co., New York, N. Y. (contained in consolidated return of Erie Railroad Co.)	1,000,000			405,497	109,218
Pennsylvania Coal Co., New York, N. Y. (contained in consolidated return of Erie Railroad Co.)	5,000,000			1,332,549	397,570
The Hudson Coal Co., New York, N. Y. (contained in consolidated return of the Delaware & Hudson Co.)	16,675,250	6,980,378			
Repplier Coal Co., Minersville, Pa. (contained in consolidated return of Peaked Mountain Coal Co., Wilmington, Del.)	20,000		135,158		36,932

*Lessor company. †Fiscal year ending March 31, 1925. ‡Net income not reported for subsidiary company. (1) No assets. (2) Non-operating.

C. & O. Asks Permit to Buy Island Creek Ry.

The Interstate Commerce Commission has been asked to approve the purchase of the Island Creek Ry., linking Holden and Logan, in West Virginia, by the Chesapeake & Ohio Ry. It is understood that a consideration of \$1,500,000 has been agreed upon between the C. & O. and the Island Creek Coal Co., owners.

The road has been under lease to the C. & O. since 1912, and all equipment used on the line is owned by the railroad company.

The proposed purchase contemplates the selling in fee of the entire Island Creek road, its branch lines and switches. There will be no change in operating policy should the sale be consummated.

All freight carried over the Logan and Southern branch, up Main Island Creek, which is owned by the C. & O., must be hauled over the Island Creek road to find an outlet to the main line of the C. & O.

Big Muddy Project Shelved

Reports received from Washington since the survey recently made by Major John C. Gotwalls, U. S. District Engineer, indicate that the project for dredging the Big Muddy River is not considered practical, as had been hoped by coal interests and industries in general throughout the southern Illinois coal fields. Plans were under way for dredging the river as an additional outlet for the shipment of coal into Northern and Eastern markets, but no doubt the scheme will be pigeonholed, temporarily at least.

There still remains the possibility of shipping from the interior mines by rail to the Mississippi and thence by barge to the Twin Cities. The rates on this combined rail-water service are about 80 per cent of the all-rail charges.

The Upper Mississippi Barge Line Corporation plans to expend \$600,000 for equipment for use on the upper Mississippi line. Later this will be replaced by government boats specially designed for this service.

Kentucky Legislature Kills Coal Tax Bill

The Kentucky Legislature killed the Hutcherson coal tax bill on Feb. 5 by an adverse vote in the House of 51 to 42 on a motion of its author to read it into the calendar despite an adverse report by the Committee on Revenue and Taxation.

Rising to a point of order at the opening of the session, Representative Milliken, Simpson County, chairman of the committee, said he had heard rumors that proponents of the coal tax planned an effort to take the bill from the committee. He then reported the bill adversely.

Mr. Hutcherson then put his motion to have it read into the calendar and defended the bill in a ten-minute speech. Representative Jones of Harlan spoke against it for ten minutes, when the roll call was taken.

Representatives Strange, Bowling Green, and Pulliam, Paducah, have similar bills in the hands of the same committee.

A. I. M. E. Enriches Program By Additional Addresses

The final program of the 133d session of the American Institute of Mining & Metallurgical Engineers, just received, shows several changes of interest to coal men. In the morning mine-ventilation session of Monday, Feb. 15, A. S. Richardson, ventilation engineer, Anaconda Copper Mining Co., will discuss "Theoretical Operating Performance of Mine Fans."

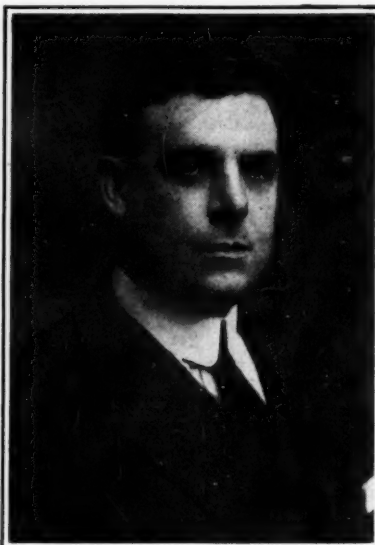
At the meeting on Tuesday afternoon Graham Bright will present data on the use of loading machines in bituminous mines; R. H. Sweetser, of the American Rolling Mill Co., Columbus, Ohio, will speak on the evaluation of coal. The article by Thomas Fraser and H. L. Yancey on the air-sand process of cleaning coal will be transferred to this session. S. W. Parr, of the University of Illinois, Urbana, Ill., will discuss the relation of origin and state of carbonization of coal to the problems of low-temperature carbonization.

The Wednesday morning session will have the added attraction of an address on the selection of coal for the manufacture of coke, by H. J. Rose, Koppers Co. Laboratories, Mellon Institute, Pittsburgh, Pa.

C. J. Hicks, of the Standard Oil Co. of New Jersey, and J. M. Shore, editor of *Service Talks* of the Philadelphia Rapid Transit Co., will supplement the remarks of George E. Roberts, vice-president, National City Bank, at the afternoon session held by the Industrial Relations Committee.

The ground movement and subsidence meeting in the afternoon will embrace not only H. N. Eavenson's remarks on coal-mine subsidence but some by C. M. Young, mining engineer, University of Kansas, on subsidence round a salt well, and others by George S. Rice of the U. S. Bureau of Mines, on the Gros Ventre slide near Jackson's Hole, Wyo., and ground movements and rock bursts on the Rand, a discussion of the report of the South African Commission on Rock Bursts.

On the afternoon of Wednesday also the Mining Methods Committee will hold open session, and Theodore Marvin, of the *Explosives Engineer*, will discuss blasting in coal mines of the United States.



C. R. Seem

Newly elected president of the Engineers' Society of Northeastern Pennsylvania, who assumed office Jan. 21. Mr. Seem is electrical engineer of the Glen Alden Coal Co., of Scranton, recognized as one of the most completely electrified anthracite companies.

Orient Blast Due to Match Used to Light Lamp

The explosion in the New Orient Mine, of the Chicago, Wilmington & Franklin Coal Co., near West Frankfort, Ill., Feb. 1, in which five men were killed, is believed to have been due to the attempt of a bratticeman to relight his lamp with a match while gas was escaping. A. D. Lewis, State Director of Mines and Minerals, announced that this conclusion was based on the inquiry of an investigating committee, which found a broken match stem and an open safety lamp belonging to Lige Hindman, a bratticeman.

Director Lewis advised officials of the company that "had it not been for the fine condition of the mine and for the fact that the mine was rock-dusted very thoroughly, undoubtedly you would have had the greatest disaster at your mine in the history of coal mining. The department wishes to congratulate you and the company for going further than the law requires to make your mine safe."

Ventilating Code Rejected By A.E.S.C. Ballot

The mine ventilating code proposed to the American Engineering Standards Committee for adoption has failed of approval on a mail ballot sent out Dec. 19. It has been returned to its sponsors for revision through the sectional committee and may be presented again later. The code was originally signed by the representatives selected by the Mine Correlating Committee, including one from the Bureau of Mines. The Bureau withdrew its sanction and sponsorship at the last minute, and the mail ballot was ordered only after a delay that was much criticised.

The Bureau lodged objections to the code for several reasons. It believed the code should segregate the mechanical and economic factors from those involving safety and health of miners. It objected because there were no specific standards set up for the quantity of air to be furnished per man underground and no specifications on proportions of firedamp and inflammable gas which may be present in an atmosphere in which it is safe for men to work. The term "booster fan" appeared, to the Bureau, to be confused with auxiliary and small blower fans.

A long explanation of the need for large airways seemed to have no place in such a code. Also, to George S. Rice, chief engineer of the Bureau, the code's provision that crosscuts be not less than 200 ft. apart "seemed unwise" because he believed that spacing is too long for a gaseous mine.

To Continue Mining Research At Carnegie Tech.

C. G. Dunkle, secretary of the Pittsburgh Section of the American Chemical Society, has been appointed to a research fellowship in mining and metallurgy at the Carnegie Institute of Technology. He is a graduate of the University of Pittsburgh in the class of 1922. This appointment fills a vacancy caused by the death of Benjamin E. Hess, of Los Angeles, Cal., and a graduate of California Institute of Technology, who was killed on Dec. 19 in a train wreck.

Mr. Dunkle will continue the investigations in a "study of flame propagation in natural gas and air," that were interrupted by the death of his predecessor. Under a plan in effect for the past several years, the research work will be conducted in co-operation with the Pittsburgh Station of the U. S. Bureau of Mines and an advisory board of Pittsburgh district coal operators and engineers, with H. F. Coward, principal assistant of the Safety in Mines Research Board of England, and G. W. Jones, fuels chemist of the U. S. Bureau of Mines, directly in charge of the study of this problem.

Announcement also is made of the appointment of John W. Greene, of Seattle, Wash., to a newly-created research fellowship to study "reactivity of coke." This fellowship is to be financed for the coming ten months by the American Gas Association.

American Methods Used by I. W. W. Exiles

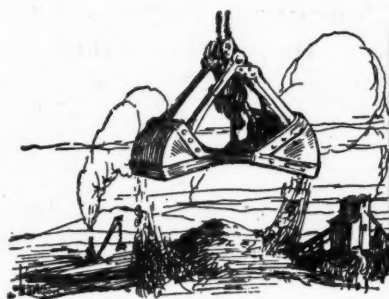
To Increase Output of Russian Coal Mines

American coal mining methods are being introduced to Russia by the American industrial colony, composed largely of former I. W. W. members, with William ("Big Bill") Haywood, former head of the Western Federation of Miners, as one of the organizers. The American exiles, according to the Associated Press, are building a town on the American plan at Kameronov, and also are constructing an iron bridge over the Tom River below Tomsk.

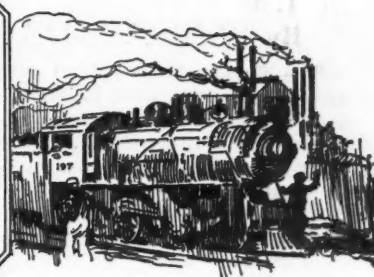
The colony is operating in the

Kuznetsk basin and is said to have made great strides during the last year in the production of coal, coke, iron and naphthalene. Several new coke furnaces have been installed, increasing the output by 75,000 tons annually and coal production was increased by 60 per cent in 1925, bringing the annual output to about 1,000,000 tons a year.

The Americans have erected a new electrical plant and a large chemical works for the manufacture of coal-tar products.



Production And the Market



Light Spot Call for Steam Coals Accentuated By Stronger Domestic Demand

Developments in the coal markets of the country the first week of February intensified the factors which have been dominating the situation since the beginning of the calendar year. The breaking up of the third anthracite wage conference at Philadelphia was immediately reflected in increased demand for prepared bituminous coals and other substitute fuels all along the Atlantic seaboard and indirectly as far inland as the Indiana-Ohio state line. This demand was given a sharper edge by the cold wave that pressed on the heels of the dissolution of the wage negotiations. Weather demand for domestic coals also was felt in the Middle Western fields. There the situation was accentuated slightly by the fact that eastern demand cut down the tonnage of prepared sizes of West Virginia coals normally offered to western buyers.

Steam coals, on the other hand, suffer both from the marked absence of active spot buying by the big industrial consumers and from the fact that the eagerness of the producers to book every possible ton of prepared coal while the domestic trade is ready to pay the price has resulted in a surplus of smaller sizes. Industrial purchasing agents are thoroughly cognizant of this state of affairs and they are using that knowledge to their own advantage. That explains why some high-volatile slack from Kentucky is to be had at 50c. at the mines and why some distress tonnage has sold at half that price. Such quotations, of course, do not represent the average range, but the price list has generally weakened.

The only real cloud on the horizon of the steam coal buyer is the possibility of a breakdown in transportation. Service, on the whole, has been maintained on a remarkable plane of efficiency. Local congestion in Pennsylvania, however, has warned the cautious pur-

chaser that there are limits to all things—even transportation.

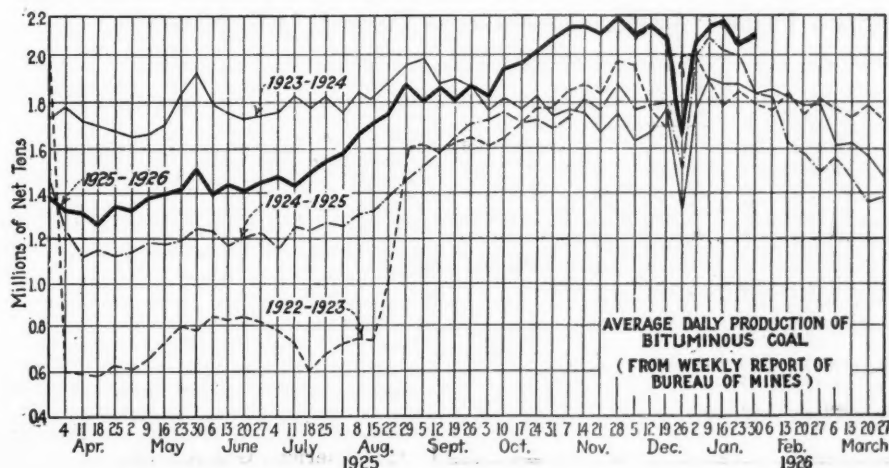
In the meantime, the rate of production is unusually high. Preliminary figures for the week ended Jan. 30 show a total output of 12,602,000 net tons. Production for the month was estimated at 53,701,000 tons. This is not the maximum recorded, but it compares favorably with the tonnages of years of extraordinary activity. Even allowing full weight to the added tonnage moving to consumers who normally burn anthracite, these figures evidence a healthy undercurrent to the general business conditions of the nation. The coal man's complaint is that this undercurrent has had little or no effect upon the prices paid for fuel.

Prices Still on Decline

The gravamen of this complaint is reflected in the *Coal Age* Index of prices on bituminous coal for Feb. 8. The index number was 177 and the corresponding price was \$2.14. For Feb. 1 the index was 178 and the corresponding price was \$2.16.

Dumpings at Hampton Roads the week ended Feb. 4 dropped to 388,265 net tons, as compared with 440,522 tons the preceding week. Heavy seas were in part responsible for the sharp decline: export business was the principal sufferer.

There has been no check to the rising quotations on coke moving to the retail trade. In the case of the Connellsville field, which is the worst offender, ovens have quoted \$12@ \$13 on yard crushed coke for sales direct to the dealer. Where the middleman has intervened, some quotations at New York and Philadelphia have gone to \$14 and \$15, but little coke has moved at the last-named figures.



Estimates of Production

(Net Tons)

BITUMINOUS

	1925	1926
Jan. 16.....	12,044,000	13,069,000
Jan. 23 (a).....	11,588,000	12,431,000
Jan. 30 (b).....	11,073,000	12,602,000
Daily average.....	1,846,000	2,100,000
Coal yr. to date.... (c)	394,519,000	448,054,000
Daily av. to date...	1,543,000	1,747,000

ANTHRACITE

Jan. 16.....	1,803,000	37,000
Jan. 23.....	1,740,000	47,000
Jan. 30.....	1,730,000	34,000
Coal yr. to date....	(c) 71,987,000	40,654,000

BEEHIVE COKE

Jan. 23 (a).....	265,000	343,000
Jan. 30 (b).....	250,000	338,000
Cal. yr. to date....	(c) 1,128,000	1,379,000

(a) Revised since last report. (b) Subject to revision. (c) Adjusted to equalize number of days in the two years.

Middle West in Doldrums

The Chicago market is again in the doldrums. Operators who gambled on the weather and tried to run full-time are now paying for their temerity.

Steam sizes have been the hardest hit. Western Kentucky 2-in. screenings, shipped to Chicago on consignment, have been seeking buyers at 65¢@95¢. and some spot tonnage also has been available at the lower figure. Fairly good distress strip mine-run from southern Indiana and western Kentucky has been offered as low as 95¢.

High-grade southern Illinois screenings are easy at \$1.40 and spot Belleville, Springfield and Fifth Vein Indiana fine coal is to be had at \$1. Few producers, however, will accept orders for future shipment at those figures.

Trade is dragging in the Cartersville field and "no bills" of all sizes clutter up the mine tracks. Under high pressure, mines are working from three to five days a week. Railroad buying from the shaft operations is good. Stripping

pits also are receiving a fair share of locomotive fuel orders.

Business has slumped off materially in the Duquoin and Jackson County fields. Working time, with minimum tonnages, ranges from three to five days. Domestic demand in the Mt. Olive district is fair, but steam sizes are hard to move. "No bills" are piling up. Standard district mines are living a hand-to-mouth existence.

Domestic Trade Unexciting

The domestic trade in the Middle West is not exciting. Anthracite is no longer to be had at Chicago and coke is the most popular substitute. Prices on egg and nut coke have advanced sharply. Byproduct plants are sold up and some of the smaller gas companies are finding a ready market for gas-house coke.

Pocahontas egg and nut are scarce at rising prices. Demand for southern Illinois 6x3-in. furnace and 3x2-in. egg is little better than normal because of the anthracite shortage. High-volatile

coals from eastern Kentucky and West Virginia are moving in fair volume. Quite a respectable tonnage is going to Iowa, where retailers are replenishing stocks depleted by the recent cold snap. Every now and then eastern block is offered in Chicago at bargain-counter prices. Some 4-in. coal has sold down to \$2. The average price on good eastern Kentucky and West Virginia block, however, is nearer \$2.75@3, with egg at \$2@2.50.

The return of milder weather has played hob with the St. Louis local market. Coke shows activity, but smokeless demand has receded as prices have advanced. Country domestic trade is slow and steam demand also has declined.

Kentucky Screenings Hit Toboggan

With the exception of a giddy drop in screenings, the Louisville market revealed little change the first week in February. Steam nut suffered somewhat in sympathy with screenings, and some mine-run, principally low grade,

Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines

Low-Volatile, Eastern		Market Quoted	Feb. 9 1925	Jan. 25 1926	Feb. 1 1926	Feb. 8 1926†
Smokeless lump.....	Columbus....	\$3.85	\$4.35	\$4.35	\$4.25@ \$4.50	
Smokeless mine run.....	Columbus....	1.90	2.60	2.85	2.40@ 2.75	
Smokeless screenings.....	Columbus....	1.20	1.85	1.60	1.75@ 2.00	
Smokeless lump.....	Chicago....	3.50	4.00	4.35	4.50@ 4.75	
Smokeless mine run.....	Chicago....	1.50	2.10	2.35	2.25@ 2.50	
Smokeless lump.....	Cincinnati....	3.85	4.25	4.10	4.25@ 5.00	
Smokeless mine run.....	Cincinnati....	2.00	2.25	2.50	2.50	
Smokeless screenings.....	Cincinnati....	1.25	1.35	1.35	1.00@ 1.60	
*Smokeless mine run.....	Boston....	4.45	4.85	4.85	4.75@ 5.00	
Clearfield mine run.....	Boston....	1.95	2.05	2.05	1.90@ 2.25	
Cambria mine run.....	Boston....	2.30	2.35	2.40	2.15@ 2.60	
Somerset mine run.....	Boston....	2.10	2.15	2.20	2.00@ 2.35	
Pool 1 (Navy Standard).....	New York....	2.75	3.05	3.05	2.85@ 3.25	
Pool 1 (Navy Standard).....	Baltimore....	2.80	2.95	2.95	2.85@ 3.30	
Pool 1 (Navy Standard).....	Baltimore....	2.25	2.30	2.30	2.25@ 2.35	
Pool 9 (Super. Low Vol.).....	New York....	2.10	2.55	2.55	2.40@ 2.75	
Pool 9 (Super. Low Vol.).....	Philadelphia....	2.20	2.60	2.60	2.50@ 2.75	
Pool 9 (Super. Low Vol.).....	Baltimore....	1.85	2.15	2.15	2.10@ 2.40	
Pool 10 (H.Gr. Low Vol.).....	New York....	1.85	2.25	2.25	2.15@ 2.40	
Pool 10 (H.Gr. Low Vol.).....	Philadelphia....	1.85	2.25	2.25	2.20@ 2.50	
Pool 10 (H.Gr. Low Vol.).....	Baltimore....	1.70	1.95	1.95	1.90@ 2.00	
Pool 11 (Low Vol.).....	New York....	1.60	2.10	2.10	2.00@ 2.25	
Pool 11 (Low Vol.).....	Philadelphia....	1.65	2.10	2.10	2.10@ 2.30	
Pool 11 (Low Vol.).....	Baltimore....	1.50	1.70	1.70	1.70@ 1.75	
High-Volatile, Eastern		Market Quoted	Feb. 9 1925	Jan. 25 1926	Feb. 1 1926	Feb. 8 1926†
Pool 54-64 (Gas and St.).....	New York....	1.50	1.60	1.60	1.50@ 1.70	
Pool 54-64 (Gas and St.).....	Philadelphia....	1.50	1.60	1.60	1.55@ 1.70	
Pool 54-64 (Gas and St.).....	Baltimore....	1.65	1.65	1.65	1.60@ 1.70	
Pittsburgh se'd gas.....	Pittsburgh....	2.50	2.65	2.65	2.60@ 2.75	
Pittsburgh gas mine run.....	Pittsburgh....	2.25	2.10	2.10	2.00@ 2.25	
Pittsburgh mine run (St.).....	Pittsburgh....	1.95	2.05	2.05	2.00@ 2.10	
Pittsburgh slack (Gas).....	Pittsburgh....	1.45	1.45	1.25	1.15@ 1.25	
Kanawha lump.....	Columbus....	2.50	2.25	2.25	2.00@ 2.50	
Kanawha mine run.....	Columbus....	1.60	1.70	1.70	1.45@ 1.80	
Kanawha screenings.....	Columbus....	.65	.85	.65	.50@ .85	
W. Va. lump.....	Cincinnati....	2.00	2.60	2.75	2.50@ 3.00	
W. Va. gas mine run.....	Cincinnati....	1.35	1.45	1.50	1.40@ 1.60	
W. Va. steam mine run.....	Cincinnati....	1.25	1.30	1.35	1.25@ 1.40	
W. Va. screenings.....	Cincinnati....	.75	.75	.80	.60@ 1.00	
Hoeking lump.....	Columbus....	2.50	2.35	2.45	2.25@ 2.75	
Hoeking mine run.....	Columbus....	1.60	1.75	1.75	1.50@ 1.85	
Hoeking screenings.....	Columbus....	1.10	1.20	1.15	1.00@ 1.15	
Pitts. No. 8 lump.....	Cleveland....	2.30	2.30	2.30	1.90@ 2.75	
Pitts. No. 8 mine run.....	Cleveland....	1.85	1.80	1.80	1.85@ 1.90	
Pitts. No. 8 screenings.....	Cleveland....	1.30	1.30	1.15	1.05@ 1.15	
Midwest		Market Quoted	Feb. 9 1925	Jan. 25 1926	Feb. 1 1926	Feb. 8 1926†
Franklin, Ill. lump.....	Chicago....	\$3.10	\$3.50	\$3.50	\$3.50	
Franklin, Ill. mine run.....	Chicago....	2.35	2.50	2.50	2.35@ 2.65	
Franklin, Ill. screenings.....	Chicago....	1.60	1.85	1.60	1.40@ 1.75	
Central, Ill. lump.....	Chicago....	2.85	3.10	3.10	2.75@ 3.00	
Central, Ill. mine run.....	Chicago....	2.20	2.30	2.30	2.00@ 2.25	
Central, Ill. screenings.....	Chicago....	1.55	1.40	1.25	1.00@ 1.25	
Ind. 4th Vein lump.....	Chicago....	2.85	3.00	3.00	2.75@ 3.25	
Ind. 4th Vein mine run.....	Chicago....	2.35	2.30	2.30	2.25@ 2.35	
Ind. 4th Vein screenings.....	Chicago....	1.45	1.85	1.70	1.65@ 1.75	
Ind. 5th Vein lump.....	Chicago....	2.60	2.40	2.55	2.40@ 2.75	
Ind. 5th Vein mine run.....	Chicago....	2.10	1.95	1.95	1.85@ 2.10	
Ind. 5th Vein screenings.....	Chicago....	1.30	1.25	1.25	1.00@ 1.25	
Mt. Olive lump.....	St. Louis....	2.85	2.85	2.85	2.75@ 3.00	
Mt. Olive mine run.....	St. Louis....	2.35	2.00	2.00	2.00@ 2.10	
Mt. Olive screenings.....	St. Louis....	1.60	1.75	1.75	1.75	
Standard lump.....	St. Louis....	2.35	2.45	2.45	2.40@ 2.50	
Standard mine run.....	St. Louis....	1.95	1.80	1.80	1.75@ 1.90	
Standard screenings.....	St. Louis....	1.10	1.05	1.05	1.00@ 1.10	
West Ky. block.....	Louisville....	2.55	2.05	2.00	1.85@ 2.15	
West Ky. mine run.....	Louisville....	1.35	1.35	1.35	1.15@ 1.50	
West Ky. screenings.....	Louisville....	1.05	.90	.90	.50@ .80	
West Ky. block.....	Chicago....	2.35	2.10	2.35	2.25@ 2.50	
West Ky. mine run.....	Chicago....	1.35	1.50	1.50	1.25@ 1.75	
South and Southwest		Market Quoted	Feb. 9 1925	Jan. 25 1926	Feb. 1 1926	Feb. 8 1926†
Big Seam lump.....	Birmingham..	2.85	2.75	2.75	2.50@ 3.00	
Big Seam mine run.....	Birmingham..	1.75	2.10	2.10	1.75@ 2.25	
Big Seam (washed).....	Birmingham..	1.85	2.30	2.30	2.00@ 2.50	
S. E. Ky. block.....	Chicago....	2.75	2.85	2.85	2.75@ 3.00	
S. E. Ky. mine run.....	Chicago....	1.50	1.85	1.85	1.75@ 2.00	
S. E. Ky. block.....	Louisville....	2.60	2.85	2.75	2.50@ 3.00	
S. E. Ky. mine run.....	Louisville....	1.35	1.55	1.55	1.35@ 1.75	
S. E. Ky. screenings.....	Louisville....	.85	1.00	1.00	.40@ .70	
S. E. Ky. block.....	Cincinnati....	2.60	3.00	3.00	2.75@ 3.25	
S. E. Ky. mine run.....	Cincinnati....	1.30	1.40	1.50	1.15@ 1.75	
S. E. Ky. screenings.....	Cincinnati....	.80	.80	.80	.50@ 1.10	
Kansas lump.....	Kansas City..	4.85	5.00	5.00	5.00	
Kansas mine run.....	Kansas City..	3.35	3.10	3.10	3.00@ 3.25	
Kansas screenings.....	Kansas City..	2.50	2.30	2.30	2.35	

* Gross tons, f.o.b. vessel, Hampton Roads.

† Advances over previous week shown in heavy type; declines in *italics*.

Current Quotations—Spot Prices, Anthracite—Gross Tons, F.O.B. Mines

	Market Quoted	Freight Rates	Feb. 9, 1925		Feb. 1, 1926		Feb. 8 1926	
			Independent	Company	Independent	Company	Independent	Company
Broken.....	New York....	\$2.34		\$8.00@ \$9.25				
Broken.....	Philadelphia....	2.39		9.15				
Egg.....	New York....	2.34	\$8.50@ \$9.25	8.75@ 9.25				
Egg.....	Philadelphia....	2.39	9.45@ 9.75	8.80@ 9.25				
Egg.....	Chicago....	5.06	8.17@ 8.40	8.08				
Stove.....	New York....	2.34	9.50@ 10.00	9.00@ 9.50				
Stove.....	Philadelphia....	2.39	10.00@ 10.75	9.15@ 9.50				
Stove.....	Chicago....	5.06	8.80@ 9.00	8.53@ 8.65				
Chestnut.....	New York....	2.34	9.75@ 10.50	8.75@ 9.40				
Chestnut.....	Philadelphia....	2.39	10.00@ 10.75	9.25@ 9.40				
Chestnut.....	Chicago....	5.06	8.61@ 9.00	8.40@ 8.41				
Pea.....	New York....	2.22	4.75@ 5.50	5.50@ 6.00				
Pea.....	Philadelphia....	2.14	5.75@ 6.00	6.00				
Pea.....	Chicago....	4.79	5.36@ 5.75	5.36@ 5.95				
Buckwheat No. 1.....	New York....	2.22	2.35@ 3.00	3.00@ 3.15				
Buckwheat No. 1.....	Philadelphia....	2.14	2.50@ 3.00	3.00				
Rice.....	New York....	2.22	2.00@ 2.25	2.00@ 2.25				
Rice.....	Philadelphia....	2.14	2.00@ 2.25	2.25				
Barley.....	New York....	2.22	1.40@ 1.65	1.50				
Barley.....	Philadelphia....	2.14	1.50	1.50				
Birdseye.....	New York....	2.22	1.65@ 1.75	1.60				

* Net tons, f.o.b. mines.

Due to suspension of mining in hard-coal fields and practical stoppage of shipments, quotations are only nominal and are not printed. Coal Age quotations on anthracite will be resumed when the new prices are available.

also weakened slightly. Heavy consumers are reducing stockpiles and show no buying interest despite the low prices. Most of the movement of block, lump and egg has been on old western orders or for eastern shipment.

Western Kentucky block is \$1.85@ \$2.15; egg and lump, \$1.75@ \$2; mine-run, \$1.15@ \$1.50; nut, \$1.25@ \$1.50; screenings, pea and slack, and nut and slack, 50@80c. Eastern Kentucky block is \$2.50@ \$3; lump, \$2.25@ \$2.50; egg, \$2@ \$2.25; nut, \$1.75@ \$2; mine-run, \$1.35@ \$1.75; screenings, 40@70c. Some distress eastern Kentucky slack has been sold to the trade at 25c.

After a month-end spurt, prompted by sub-zero weather, domestic coal demand at the Head of the Lakes again dropped as the mercury rose. Bookings of a fair volume of industrial orders from Minnesota and northern Wisconsin furnished a pleasing contrast to the domestic decline. Iron and steel interests were the most active factors in this market. Hydro-electric companies, short of water power, also bought.

No Hard Coal on the Docks

For the first time since the 1902 strike, the docks are bare of hard coal. The recent cold spell caused a last rush on the part of consumers which speedily cleaned up the little anthracite left. Consumers are cheerfully buying substitutes. Sales of Pocahontas and other smokeless coals are setting new high records. Domestic coke and briquets also are in good demand. Many householders declare they will use smokeless coals as long as the present wide spread in prices between those coals and anthracite exists.

Smokeless stocks on the docks are liberal. It is estimated that a fair carry-over of that coal will remain on hand at the opening of navigation. The recent cut of 50c. on prepared sizes was prompted by the fact that retailers in the Twin Cities have been buying all-rail.

Bituminous stocks now on the docks approximate 4,500,000 tons.

A week of moderate weather lessened consumption in Milwaukee territory. Despite this general tapering off in domestic demand, it is still difficult to obtain Pocahontas coal, but prices are unchanged. Increasing demand has pushed the retail price on nut coke to \$16—the same price to which range was raised the week preceding.

Weather Hurts Southwestern Demand

Warm weather has begun to cut down operating time in the Southwest. There is a surplus of all sizes in the Kansas fields and many mines have reduced running time to three and four days a week. This policy will soon clean up screenings accumulations, but how to dispose of surplus prepared sizes without sacrificing all profit is the problem. Prices on screenings are firm, but there is some shading in lump figures.

Demand for sized coal for domestic consumption in the Colorado field holds steady. Mines continue to operate on an 85-per cent basis, with transportation and labor conditions favorable. Domestic demand, however, is unevenly distributed; western Kansas and Nebraska are the heavy buyers. Colorado

mines have about 300 "no bills" of various sizes on track. Unless these are moved soon, a cut in production will be inevitable.

Utah operators, due to weather conditions, are finding the domestic market—at no time this winter really brisk—again slow and draggy. Industrial demand is normal. There is no change in prices. Opening of new mines has made competition exceptionally keen.

Upsets in Cincinnati Market

Extremes meet in a review of the Cincinnati market the past week. High-volatile slack is still on the auction block and the situation of mine-run is little better. Block, on the other hand, stands firm at the \$2.50@ \$3 range. Some low-volatile slack has sold at \$1, but the general run of prices is \$1.25@ \$1.50. Low-volatile lump commands \$4.25 in the spot market; egg, nut and stove bring \$5 for western delivery and \$1 more when the buyer is located in the East.

Producers are striving to avoid glutting the Cincinnati market. The latest interchange report of the American Railway Association shows a decrease of 1,222 cars in the coal interchanged through the Cincinnati gateways and a much lighter movement of empties to

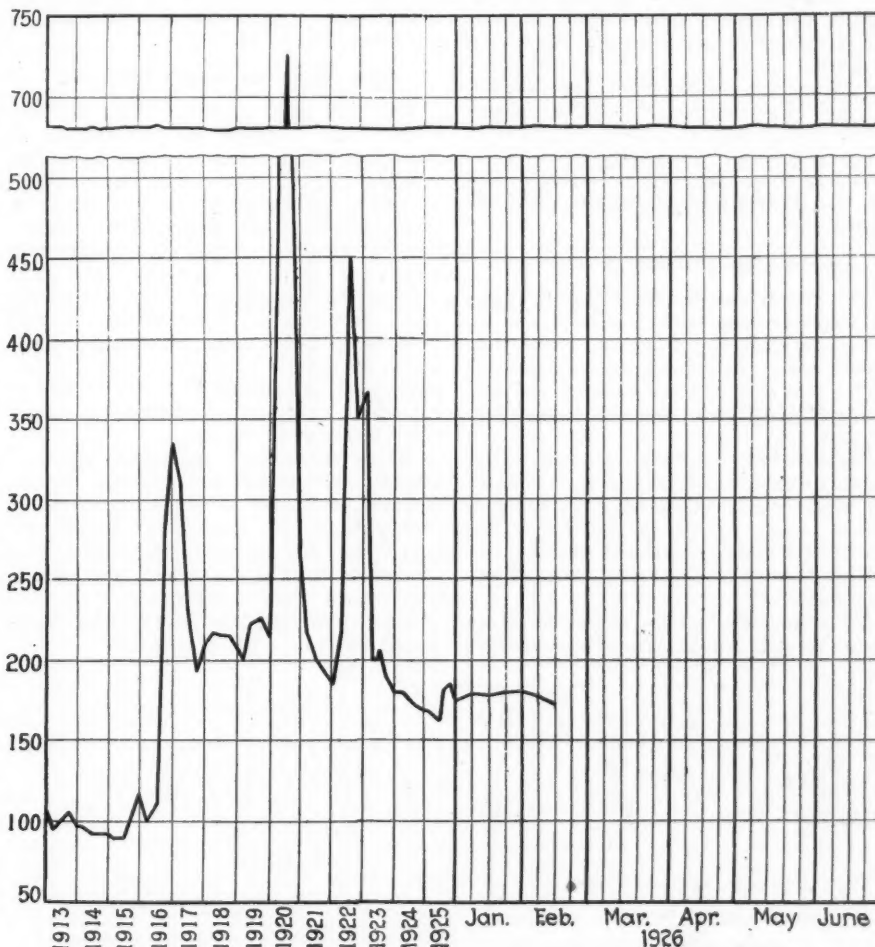
the Chesapeake & Ohio. Counting unbilled loads against the mine allotment on the Louisville & Nashville has forced many operators enjoying a good business in domestic sizes to dump nut and slack on the market at any price.

Another factor in upsetting prices has been the attitude of industrial purchasing agents, who stocked heavily last November to beat down prices during January-March. One Kentucky producer with heavy bookings of domestic orders has been selling slack at 50c., while many other producers in the same field hold to \$1@ \$1.10. New River slack is holding up to \$1.25@ \$1.50. The \$1 price mentioned in a preceding paragraph applied to Pocahontas coal; the explanation lies in the refusal of byproduct ovens to take their usual quotas of coal from that field.

Retail business is brisk. The same weather conditions which created that condition, however, have badly hampered river movement.

Central Ohio Trade Drags

Central Ohio domestic trade again succumbed to weather conditions last week. Dealers, who are rather heavily stocked, are devoting their attention to cleaning up as much as possible. Smokeless coals lead in consumer de-



Coal Age Index of Spot Prices of Bituminous Coal F.O.B. Mines

	1926			1925	1924
	Feb. 8	Feb. 1	Jan. 25	Jan. 18	Feb. 9
Index	177	178	178	181	188
Weighted average price	\$2.14	\$2.16	\$2.16	\$2.19	\$2.03
					\$2.27

This diagram shows the relative, not the actual, prices on fourteen coals, representative of nearly 90 per cent of the bituminous output of the United States, weighted first with respect to the proportions each of slack, prepared and run-of-mine normally shipped, and second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke: 1913-1918," published by the Geological Survey and the War Industries Board.

mand. Splints have weakened considerably and Ohio coals are very dull. There has been little retail price cutting. Smokeless sells at \$9.50@10; splints, \$7@7.50; Kentucky block, \$7.25@7.50; Hocking, \$6@6.50.

The market for industrial coal continues dull and irregular. Spot buying is the rule with many large consumers, including the City of Columbus. Screenings are so weak that many mines in the Hocking Valley and Cambridge fields have closed down. Pomeroy Bend operators paying the 1917 scale still keep going. Some lots of screenings have sold under 50c.

Output in the Hocking Valley, Cambridge, Crooksville and Jackson districts approximates 18 per cent of capacity. Pomeroy Bend is averaging 35 to 40 per cent.

Slack prices in the Cleveland market are touching new low levels. The cheerful side of the situation is that the slump is indicative of heavy and more profitable domestic demand for large coal. The sad angle is the fact that the low prices are in part due to the competition of bargain-counter West Virginia offerings. The surplus of screenings also has diminished inquiry for other steam grades.

Milder weather has slowed down retail activity. Dealers bought heavily during the recent cold wave and now are reluctant to add much to the stocks on hand.

During the week ended Jan. 30 the No. 8 field in eastern Ohio produced approximately 259,000 tons, or 37 per cent of capacity. The output was 17,000 tons less than that of the week preceding and 10,000 tons under the total for a year ago.

No Gain in Pittsburgh District

The Pittsburgh district has undergone no improvement with the new month. Local demand for domestic sizes continues fair, but prices are unsatisfactory. Nut and egg for eastern delivery bring \$2.75@3.25, but the tonnage is limited.

Slack, which recently slumped badly, seems to have found a level at \$1@1.10 for steam coal and \$1.15@1.25 for gas. These prices are 25 to 30c. under the quotations ruling until the break.

The district is operating on a 30-per cent basis.

Developments in the anthracite strike have helped the central Pennsylvania

bituminous field. January output is estimated at 5,011,348 tons—the largest since December, 1920, when 5,418,829 tons was loaded. Prices are stronger. Pool 18 is quoted at \$1.80@2; pool 11, \$1.90@2.20; pool 10, \$2.25@2.50; pool 9, \$2.40@2.70; pool 1, \$3@3.50; pool 71, \$2.60@2.90. Prepared sizes are offered at \$5.25@5.50. Run of oven coke brings \$7 and sized coke is \$10.

The Buffalo bituminous trade is dull and discouraging. Slack has tumbled. Some tonnage has been sold at \$1, although standard quotations are \$1.25@1.40 on Fairmont and \$1.30@1.60 on No. 8 coal. Fairmont lump is held at \$1.50@1.75; mine-run, \$1.40@1.50. Youghiogheny gas lump is available at

Car Loadings and Supply

	Cars Loaded	
	All Cars	Coal Cars
Week ended Jan. 23, 1926.....	921,734	180,923
Preceding week.....	936,655	192,820
Week ended Jan. 24, 1925.....	924,254	201,229
	Surplus Cars	
	All Cars	Coal Cars
Jan. 22, 1926....	264,781	96,255
Jan. 15, 1926....	309,155	115,502
Jan. 22, 1925....	228,836	77,964

\$2.25@2.50; Pittsburgh steam lump at \$2@2.25 and short-rate Allegheny Valley mine-run at \$1.75@2.

New England Market Sluggish

The New England bituminous market is decidedly sluggish for this season of the year. Industrial demand is intermittent and light and the householder is more indifferent than conservative trade observers had anticipated. Nevertheless, several of the West Virginia smokeless shippers say they are sold up for the fortnight on prepared coal and high-grade Pennsylvania low-volatile screened coal is bringing \$5@6.50, with little offered. There are reports that as high as \$8 has been asked by some shippers of Pocahontas and New River egg and stove.

Many consumers, however, show a strong preference for foreign coals. Several cargoes of Welsh anthracite and patent fuel have been badly delayed by the storms. A cargo was landed at New Bedford last week after tossing the waters for nearly a month. A cargo consigned to Boston was abandoned 800 miles off Halifax.

There have been only minor variations in the f.o.b. vessel prices on West Virginia smokeless at Hampton Roads. The range is controlled by accumulations at the piers, but no sales have been reported under \$4.75 or above \$5 for Navy Standard. On cars, Boston and Providence, this coal brings \$6.25@6.40 gross. There is little retail demand for mine-run.

New York Market Active

The New York bituminous market was active last week. Shippers faced some transportation difficulties, but these were not serious enough to jam shipments, although snow storms in central Pennsylvania closed down some smaller mines. There was, however, much congestion at some of the local piers. The number of cars waiting to be dumped reached 5,000, which is almost double the normal number.

Mine-run was in steady demand. Prepared sizes of New River and Pocahontas were snapped up at \$7@8. High-volatiles were quoted at \$3.25@4.25, but the tonnage was limited. There was a scarcity of sized coals from the Broad Top field. Some shippers demanded up to \$9 for Broad Top coal, but the average quotations on 4-in. lump ranged between \$5 and \$6. Sized low-volatile from central Pennsylvania was held at \$6@7. Some medium-volatile coal was offered at \$4@5.

Congestion Hits Philadelphia

The great drawback to the Philadelphia market last week was delayed transportation. The Pennsylvania R.R. asserts that considerable progress has been made in clearing up the congestion between Altoona and Harrisburg, but coal still comes in slowly. To add to the difficulties, a two-foot snow storm hit the region Feb. 3, cutting down car supply.

Prices on sized bituminous have advanced. Pennsylvania low-volatiles and Pocahontas range from \$7.50 to \$8, with most shippers sold up. High-volatiles, such as the Fairmont and Westmoreland coals, are in stronger demand as a result, but quotations have not shifted from the \$4@4.25 range. Many householders are now using these coals.

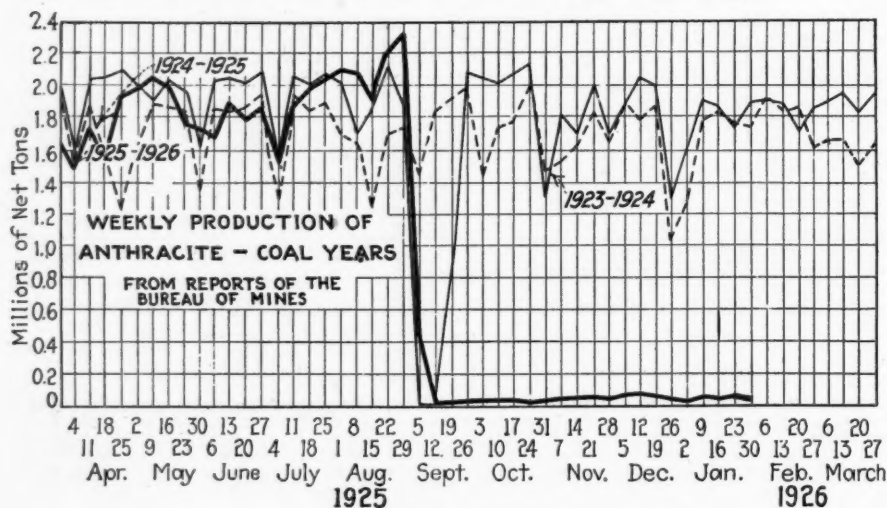
The accumulation of slack is the major problem confronting the operators. The railroad congestion, however, has brought some relief, as industrial consumers are now showing a little more interest in the question of shipments.

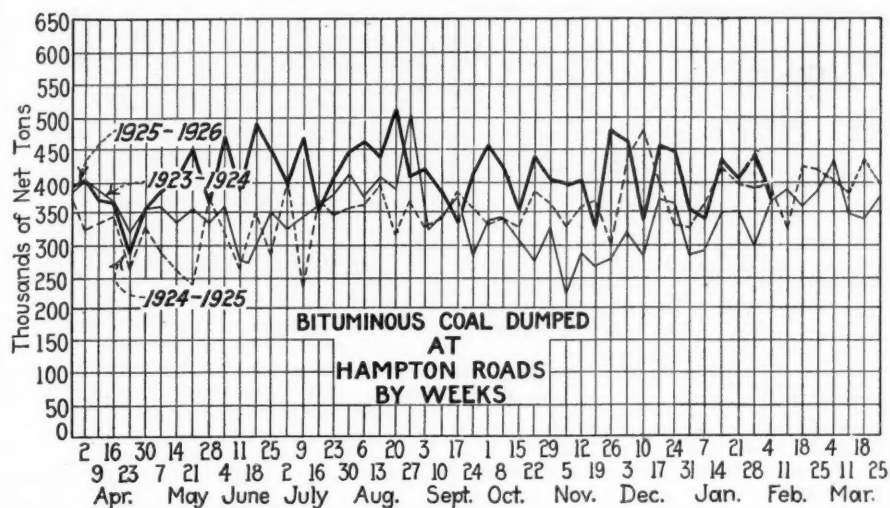
No real change is apparent in the Baltimore bituminous situation. All grades are in easy supply and prices have shown little fluctuation.

Prices Up at Hampton Roads

The coal business at Hampton Roads last week was on the up grade. The failure of the anthracite wage negotiations strengthened prices and demand and broadened inquiries for tonnage. Mine quotations on coals sized for household consumption were boosted, but no change in local retail prices was anticipated. The heavy seas had a bad effect upon export shipments, but coastwise and bunker deliveries held up as well as could be expected.

Birmingham market conditions have not changed materially in the past





week. Medium and lower quality coals dragged, but the output was moved without serious delay. Washed coals still lead in activity. Railroads are taking large quantities of fuel on contract. The bunker trade is featureless, but the volume is ahead of last year.

Most of the better domestic coals are sold up through February, with a fair amount of new business coming in to augment mine bookings. Medium and lower grades are moving moderately well. Both retailers and consumers, however, are buying on a hand-to-mouth basis.

Prices, except on some of the less desirable steam coals, are steady. High pressure is being maintained in the coke market, egg and nut advancing to \$7.50@\$8 the past week as the result of the extraordinary demand and short-

age in supply. Foundry coke moved up to \$7. Gas coke also sold at \$7.

New York Cries for Substitutes

Substitutes for anthracite in the New York market were short last week. Demand was increased by the break in the wage negotiations at Philadelphia and was further intensified by the heavy snow storm which swamped retail dealers with new orders. Many of the latter were for less than ton lots.

The scarcity of coke strengthened the market on sized soft coal. Run-of-oven coke was quoted at \$11@\$12.50, with the average selling price around \$11.50. Sized coke sold at \$13.50@\$14, with a few agents asking up to \$15.

There was another rush of Philadelphia retailers for substitute fuels last week, following the breaking up of the

third wage conference. The overcautious dealers who had been holding back buying found they were compelled to pay even higher prices. Low-volatile sized coals were around \$7.50 and Connellsville sized coke was offered at \$13@\$14.50.

Coke Prices Still Up

Run of oven coke at Connellsville ovens jumped another dollar early last week under the bidding of eastern buyers demanding car numbers. The region is rife with conflicting claims as to future business; some producers declare they have the situation well in hand and can ship as promised when sales are made; others insist that coke sold a month ago is just being loaded.

Certain sales agents have practically withdrawn from the market. They consider the outlook too uncertain and are unwilling to take the chance of a slump in prices and cancellation of orders. There is much more direct selling by the ovens to eastern buyers than was the case some weeks ago. The prices of \$10@\$11 on run-of-oven and \$12@\$13 on yard crushed coke, therefore, represent the actual realizations of the ovens.

The blast furnaces are entirely out of the picture. Those that are operating have contracts averaging \$4.

The Connellsville *Courier* reports coke output in the Connellsville and Lower Connellsville regions for the week ended Jan. 30 at 107,700 tons from the furnace ovens and 125,180 tons from the merchant ovens. Furnace oven production decreased 2,900 tons; merchant oven output increased 910 tons over the production for the preceding week.

Coal Produced in the United States in 1924^a

(Exclusive of Product of Wagon Mines)

State	Net Tons				Value		Number of Employees			Average	
	Loaded at Mines for Shipment	Sold to Local Trade and Used By	Used at Mines for Steam and Heat	Made Into Coke at Mines	Total Quantity	Average per Ton	Miners ^b	Others	Surface	Average Number of Days Worked	Average Tons per Man
Alabama.....	18,395,094	348,580	215,450	171,060	19,130,184	\$44,756,000	15,892	7,216	4,848	27,956	220
Alaska.....	93,932	4,321	1,410	.....	99,663	560,000	60	40	67	167	287
Arkansas.....	1,402,929	15,019	33,555	.....	1,451,503	5,898,000	1,811	732	807	3,350	134
Cal., Idaho, Neb. and Oregon.....	8,352	7,851	750	.....	16,953	71,000	4.19	36	20	83	156
Colorado.....	9,512,534	561,539	236,696	133,329	10,444,098	31,863,000	3.05	8,023	2,978	1,953	12,954
Georgia.....	58,097	611	1,839	74,947	14,400	271,000	3.62	55	19	69	143
Illinois.....	63,689,920	3,319,700	1,313,661	.....	68,323,281	155,260,000	2.27	59,451	21,306	8,606	89,363
Indiana.....	20,338,416	725,561	416,236	.....	21,480,213	46,453,000	2.16	17,717	6,210	3,631	27,558
Iowa.....	4,351,252	993,393	123,805	.....	5,468,450	18,097,000	3.31	8,382	2,677	1,042	12,101
Kansas.....	3,871,125	309,806	66,802	.....	4,247,733	12,854,000	3.03	6,182	1,250	1,129	8,561
Kentucky.....	43,683,182	859,023	458,205	146,794	45,147,204	84,733,000	1.88	31,864	14,703	9,199	55,766
Maryland.....	1,945,259	171,925	16,519	.....	2,133,703	4,629,000	2.17	2,373	856	547	3,776
Michigan.....	767,359	6,433	57,228	.....	831,020	3,602,000	4.33	1,016	390	145	1,551
Missouri.....	2,169,155	244,302	67,423	.....	2,480,880	8,154,000	3.29	3,649	1,068	1,260	5,977
Montana.....	2,650,836	170,590	83,939	.....	2,905,365	8,596,000	2.96	1,852	823	521	3,196
New Mexico.....	2,549,438	49,001	51,412	136,212	2,786,063	9,774,000	3.51	2,416	851	939	4,206
North Carolina.....	51,094	1,200	4,800	.....	57,094	224,000	3.92	60	33	27	120
North Dakota.....	957,987	212,994	29,546	.....	1,200,527	2,473,000	2.06	671	186	441	1,298
Ohio.....	27,404,951	2,685,565	382,491	.....	30,473,007	62,011,000	2.03	29,481	8,966	5,782	44,229
Oklahoma.....	2,236,937	35,999	56,679	.....	2,329,615	8,590,000	3.69	3,324	1,740	1,080	6,144
Pa. (bituminous).....	110,240,821	6,565,736	1,835,366	11,991,850	130,633,773	295,164,000	2.26	108,773	38,312	22,237	169,322
South Dakota.....	3,000	9,043	.....	.....	12,043	36,000	2.99	40	.....	40	138
Tennessee.....	4,142,873	73,700	109,781	230,201	4,556,555	9,711,000	2.13	5,726	2,236	1,403	9,365
Texas.....	1,119,048	7,256	20,707	.....	1,147,011	1,721,000	1.50	1,426	456	313	2,195
Utah.....	4,107,261	51,400	60,566	268,930	4,488,157	12,057,000	2.69	2,369	1,023	938	4,330
Virginia.....	9,756,162	168,530	51,951	716,821	10,693,464	21,823,000	2.04	6,131	4,255	2,293	12,679
Washington.....	2,442,059	92,366	69,903	49,339	2,653,667	9,689,000	3.65	2,192	982	684	3,858
West Virginia.....	97,169,314	3,307,505	652,855	533,223	101,662,897	185,229,000	1.82	55,067	30,480	16,656	102,203
Wyoming.....	6,447,307	112,055	198,106	.....	6,757,468	18,327,000	2.71	4,285	1,772	1,056	7,113
Total, bituminous.....	441,565,694	21,111,004	6,617,681	14,392,159	483,686,538	1,062,626,000	2.20	380,324	151,580	87,700	619,604
Pa. anthracite.....	77,247,499	3,043,939	7,635,424	.....	87,926,862	477,231,000	5.43	76,035	43,328	40,646	160,009
Grand total.....	518,813,193	24,154,943	14,253,105	14,392,159	571,613,400	1,539,857,000	2.69	456,359	194,908	128,346	779,613

^a Note that the coal statistics of the Geological Survey for a given year include only the mines that had an output in that year. Many mines that operated in 1923 produced no coal in 1924; moreover, many of the mines that did produce in 1924 worked for a short time only. The number of active bituminous mines of commercial size in the United States was 9,331 in 1923 and 7,586 in 1924.

^b Includes also loaders and shotfirers.

Statistics issued by U. S. Bureau of Mines.

Foreign Market And Export News

No Break in Demand On British Collieries; Inquiries Also Growing

The improvement in the British coal market is well maintained. All sections show a broadening of inquiries and substantial bookings to carry the trade well into February have been made. Superior large and smalls are rather scarce for prompt shipment, and prices are strongly held. Ordinary dries and sized products are in keen demand, and prices are very firm.

French inquiries are much better, and good business awaits fulfilment. South America remains fairly active, though effective demand is checked by a sharp rise in the outward freight, which adds two or three shillings to the c.i.f. price.

Best Admiralty large is closely booked over the next two or three weeks, and prices are steady to firm. Ordinary dries are meeting more demand at the lower levels. Monmouthshire collieries are busy, and a steady inquiry is passing. Patent fuel is dull.

There was very little spot coal available for late January delivery in the Newcastle market and the odd lots on offer were taken up at very high prices. All classes of fuel, including cokes, show increased values, but the chief improvements are in best quality gas and steam coals. Contracts and inquiries show much more confidence in the future than one might have expected in view of recent developments. In the coal fields more pits are re-starting, and most of those idle are idle from the result of disputes rather than lack of trade.

Output by British collieries during the week ended Jan. 23, according to a special cable to *Coal Age*, totaled 5,540,000 gross tons, compared with 5,460,000 tons in the preceding week.

Better Tone to Belgian Trade

The general feeling in the Belgian market is better than a month ago as far as industrial coals are concerned. Domestic demand continues satisfactory. It is also self-evident that the suppression of import licenses for the free German coals did not fail to improve the situation of the Borinage collieries.

In the Charleroi district stocks are

diminishing and the demand is particularly active in 5/10 and 10/20 lean coals. Smallsm used in lime production command 69 fr. In the Borinage, stocks are again being drawn from.

Prices at the mine are generally unchanged. Transportation rates on steam coals have been cut 20 per cent, but rates on domestic coals, pitch and pitwood have been increased 30 per cent.

During 1925 Belgium received 2,902,908 tons of reparation coal (of which 1,326,592 tons were coking smalls; 390,137 tons coking, and 260,835 tons coke) as against 4,381,786 tons in 1924 (of which 1,321,374 tons were coking small; 1,024,008, coking coal, and 540,448 tons coke).

Owing to the raising of fiscal charges, the reparation coals bear a slight increase since Jan. 13. The new taxes will be: Cokes, 1.20 fr. instead of 0.12; coking coals, 0.80 instead of 0.08; flaming coals, 71.2 centimes instead of 7.8 centimes.

French Coal Prices Advanced to Meet Wage Demand

Paris, France, Jan. 20.—There is but little change in the French coal market. Demand is steady and collieries are sold up for the month and part of February. Transportation has improved. It is not yet practicable to use all the waterways, but the number again opened to ordinary traffic is increasing every day. Delays in the delivery of the French, as well as of the Belgian coals, however, still compel consumers to use more British coal, in spite of high prices due to the adverse exchange.

The Miners' National Federation has sent the Comité Central des Houillères a request for higher wages, based on a 25 per cent increase in living costs. A meeting held at Douai Jan. 16 between the coal owners' representatives of the Nord and Pas de Calais and those of their men agreed that from Jan. 16 to May 15 the super-indemnity for cost of living (*surprime de vie chère*) should be raised from 40 to 100 per cent. For the underground man, whose wage is the highest, the increase granted will amount to 1.80. Nord and Pas de Calais coal prices have been increased 4 fr.

The Lorraine collieries (La Houve) have raised their prices 5 fr. in order

to maintain their prices in the same limits as the Sarre collieries, which have just increased their rates 3 to 7 fr.

Contrary to what has been reported, the French-German negotiations to conclude a coal agreement have not been resumed and they probably will not be resumed for a while.

Egyptian Orders to Wales

Announcement has just been made by the Egyptian State Rys. as to the results of the bidding of Dec. 2, 1925, for the supply of colliery screened Welsh coal. This announcement states that:

Sixteen offers were received and contracts have been placed as follows:

Messrs. Watts, Watts & Co., for the supply of 200,000 metric tons, at £1 8s. 9d. per metric ton. Payment to be made on the delivered weight less two per cent of the freight only or, in the option of the Administration, on the bill of lading quantity less an allowance of two per cent on coal and freight.

Messrs. Beynon & Co., for the supply of 50,000 metric tons at £1 9s. 9d. per metric ton.

Messrs. W. Milburn & Co., for the supply of 50,000 metric tons at £1 9s. 10d. per metric ton.

Each contract is for delivery c.i.f. (Alexandria).

Export Clearances, Week Ended Feb. 6, 1926

FROM HAMPTON ROADS

For Italy	Tons
Ital. Str. Brenta II, for Genoa.....	2,885
Ital. Str. Antonietta, for Bagnoli....	6,152
Ital. Str. Campania, for Porto Ferrajo	6,935
Jap. Str. Etna Maru, for Genoa.....	9,127
For New Brunswick:	
Br. Schr. Cape Blomidon, for St. John	626
For Brazil:	
Br. Str. Polycarp, for Para.....	1,006

FROM BALTIMORE

For Egypt:	
Ital. Str. Roana, for Alexandria.....	9,348

Hampton Roads Coal Dumpings*

(In Gross Tons)

	Jan. 28	Feb. 4
N. & W. Piers, Lamberts Pt.:		
Tons dumped for week.....	181,832	158,403
Virginia Piers, Sewalls Pt.:		
Tons dumped for week.....	70,730	76,690
C. & O. Piers, Newport News:		
Tons dumped for week.....	140,761	111,572

* Data on cars on hand, tonnage on hand and tonnage waiting withheld due to shipper's protest

Pier and Bunker Prices, Gross Tons

PIERS

	Jan. 30	Feb. 6†
Pool 1, New York....	\$6.00@ \$6.35	\$6.00@ \$6.35
Pool 9, New York....	5.50@ 5.75	5.50@ 5.75
Pool 10, New York....	5.20@ 5.40	5.25@ 5.50
Pool 11, New York....	4.85@ 5.25	4.85@ 5.25
Pool 9, Philadelphia..	5.30@ 5.40	5.50@ 5.80
Pool 10, Philadelphia..	5.05@ 5.25	5.30@ 5.50
Pool 11, Philadelphia..	4.80@ 5.00	4.90@ 5.20
Pool 1, Hamp. Roads..	4.90@ 5.00	5.00@ 5.10
Pool 2, Hamp. Roads..	4.65@ 4.75	4.65@ 4.75
Pools 5-6-7, Hamp. Rds.	4.25@ 4.35	4.40@ 4.50

BUNKERS

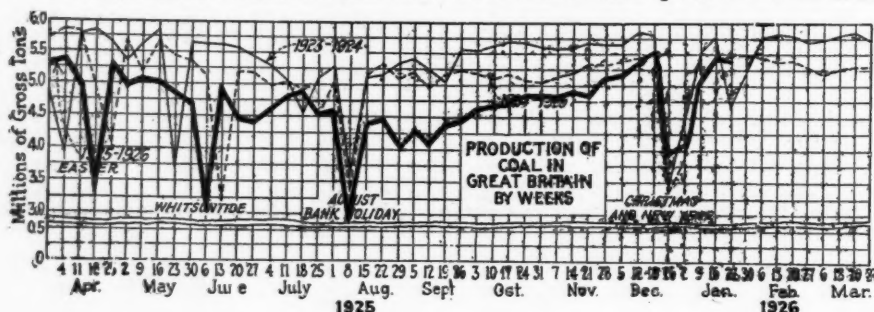
Pool 1, New York....	\$6.25@ \$6.60	\$6.25@ \$6.60
Pool 9, New York....	5.75@ 6.00	5.75@ 6.00
Pool 10, New York....	5.45@ 5.65	5.50@ 5.75
Pool 11, New York....	5.10@ 5.50	5.10@ 5.50
Pool 9, Philadelphia..	5.55@ 5.70	5.75@ 6.00
Pool 10, Philadelphia..	5.25@ 5.50	5.55@ 5.75
Pool 11, Philadelphia..	5.10@ 5.25	5.15@ 5.45
Pool 1, Hamp. Roads..	5.00	5.10
Pool 2, Hamp. Roads..	4.75	4.75
Pools 5-6-7, Hamp. Rds.	4.35	4.50

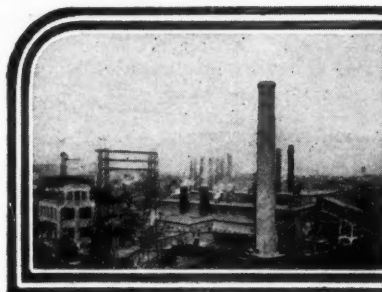
Current Quotations, British Coal, f.o.b. Port, Gross Tons

Quotations by Cable to *Coal Age*

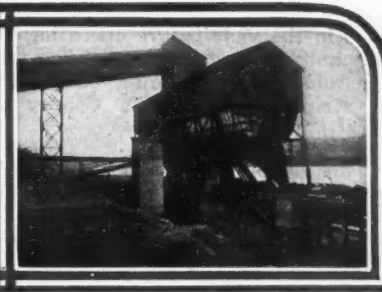
	Jan. 30	Feb. 6†
Cardiff:		
Admiralty, large.....	23s. @ 23s. 6d.	23s. 3d.
Steam smalls.....	14s. 6d.	14s. 6d.
Newcastle:		
Best steams.....	16s. 9d. @ 18s.	16s. 7d. @ 19s.
Best gas.....	17s.	16s. 7d. @ 18s.
Best bunkers.....	16s. 6d.	16s. 6d.

† Advances over previous week shown in heavy type; declines in italics.





News Items From Field and Trade



ALABAMA

Plans are being formulated for holding the annual state first-aid and mine-rescue meet early next summer. Alabama Mining Institute, Bureau of Mines, Joseph A. Holmes Safety Association and other organizations sponsoring these meets are now giving the matter attention. Officials of the Bureau of Mines and the Safety Association are visiting the different mining fields, giving instructions to the teams and offering all the assistance possible in preparing the men for this important work.

A first mortgage six and one-half per cent gold bond issue of the Porter Coal Co. is being marketed by Ward, Sterne & Co., Birmingham. The company was reorganized in 1922 when W. Carson Adams, E. J. Rowe and J. A. Norman acquired the stock of the Pratt-Southern company, which owned 1,160 acres of mineral rights and 160 acres of surface rights at Porter, adjacent to the Risco holdings of the Republic Iron & Steel Co. The Porter Coal Co. was formed as a holding company and started at once to put the mine property in first-class condition. During this period limited operations were maintained. With the completion of a coal washer in a few weeks, the company expects to resume full-time operation.

ARKANSAS

Mine No. 8 near Bates, owned by W. J. Francis, was flooded recently and workmen were forced to abandon mine No. 2. Considerable equipment was lost but the employees escaped.

COLORADO

R. N. Jones, of Trinidad, formerly master mechanic for the Victor-American Fuel Co., and William Liddle, of Palisade, for three years foreman of the Garfield mine, announce that they have obtained a five-year lease on the Garfield mine and plan to work it on a large scale. They are to take over the property Feb. 15, and expect to have 25 men at work a few days later. The new lessees will erect a new tipple where the old one recently torn down was located. They expect to mine 200 tons daily. The new operators will have the option of buying the mine from its present owner, Albert E. Bayless, of Oklahoma City. No coal has been shipped from the Garfield mine for two or three years.

His property closed up and posted for the second time, Fred Sevcik, owner of the Cottonwood mine, two and a half

miles north of Colorado Springs, has filed suit against F. J. Dalrymple, state inspector of coal mines, in district court asking for an injunction to restrain the inspector or his deputies from requiring him to place a certified official in charge and from the installation of a ventilator fan, as provided in the new state mining law. Sevcik does all the underground work in the mine himself, the complaint states, others being employed for the surface jobs. Sevcik won his first action against Dalrymple Jan. 21.

Colorado mines produced 10,412,041 tons of coal in 1925, according to an announcement by State Inspector James Dalrymple. This is 89,047 tons less than was mined in 1924. December output was 1,249,656 tons. The average number of men employed in and about the mines last year was 12,138, and the number of days worked per mine was 156.4.

A. M. Wilson, City Manager, and S. E. Nichols, City Clerk of Colorado Springs, have closed a one-year contract with the Colorado Fuel & Iron Co. for Toller coal for use by the municipal gas plant. The company will supply the plant with approximately 10,000 tons of coal during the year. Its bid was \$4.70 per ton.

ILLINOIS

Rice Miller, of Hillsboro, was appointed receiver for the Illinois Coal Corporation on Jan. 28 by Judge W. C. Lindley in U. S. District Court at Danville, the appointment being made on the petition of the American Mine Equipment Co., and with the consent of the coal corporation. The corporation has property valued at \$10,000,000, operating six mines in Illinois—at Nason, Springfield, Auburn, Girard, Virden and Nokomis. It has bonds outstanding of approximately \$6,000,000. Albert J. Nason is president of the corporation. The Nason mine is one of the largest in the world. It is a twin-tipple operation sunk about a year and a half ago and recently completed.

The Peabody Coal Co., Chicago, is equipping Mine No. 6 with automatic cushioned horn cage stops and table keepers. This is the sixteenth mine of this company to install such equipment.

A large seam of coal was struck late in January at a depth of 246 ft. at the shaft being sunk on the Judge Early Farm, one mile south of Sherman. Sixteen tons of coal were hoisted the first day. The shaft is 7x6 ft. and two cages will be used. Work will be started at once on the outbuildings and the tipple.

William A. Wilson, of Belleville, has resigned as St. Clair County Mine Inspector to accept a position as manager of a coal mine in Freeburg.

The Old Ben Coal Corporation with 14 mines in southern Illinois and offices in St. Louis and Chicago, announces through John E. Jones, safety engineer of the company, a marked decrease in the fatality rate of men employed at its properties during 1925. Last year the rate was 1.17 men for each million tons mined compared with 3.02 in the preceding year.

Initial preparations for two large strip operations are being made west of Duquoin by two different interests. Options on the two tracts have been taken and it is stated that between 25 and 35 drills will be employed in the next 60 days to ascertain the exact position of the coal.

The Peabody Coal Co.'s mine No. 9, Taylorville, produced 1,318,780 tons of coal in the 252 days it operated in 1925. Its payroll for the year amounted to \$1,844,538. No. 58, another Taylorville mine, also made a high mark. It hoisted 947,551 tons during 292 working days. Its pay-roll totaled \$1,439,371. The total hoists of Peabody mines for the entire district were 5,680,551 tons for 1,724 working days. The district payroll was \$8,968,371.

The Randall Mine, one mile north of Freeburg, is expected to be reopened about the middle of February, the property having changed hands recently. William J. Reichert, president of the Freeburg Milling Co., is reported to have purchased the property at a price stated to be over \$16,000. The mine, which is one of the smaller operations in the Freeburg district, has been idle for the past two years.

INDIANA

Non-union mines in southern Indiana, closed up several weeks ago when an "army" of 1,500 union miners made a tour of the field, are gradually resuming work under the arrangements that prevailed prior to the visit of the unionists. The return to normal conditions in the region is being made without disturbance or interference, according to mine operators.

The Wasson-Pocahontas Coal Co., of Vincennes, has filed a final certificate of dissolution.

Growth of coal mining activities in and about Petersburg has forced the enlargement of the New York Central R.R. yards there. Trackage double that now in use is being laid. Most

mines in the vicinity are operating full time, and three engines are being used to assemble the outgoing coal trains. All strip mines in Pike County are operating full time.

Pleas of union miners for 18 non-union workers to quit work at the Sargeant mine No. 2, near Newburgh, were scorned by the non-union men last Friday. Met by a union delegation at the mine mouth, the non-union men proceeded to work without heeding the delegation's request that they quit and join the union.

The Bardyke mine, north of Terre Haute, which had been idle since early in December due to a fire which burned the tippie, has resumed operations. This mine is one of the large producers in the Terre Haute field. The mine is owned by the Fort Harrison Mining Co. and employs a large number of men.

William L. Williamson, for thirty years associated with the W. W. Ray coal interests at Terre Haute, has sold out his interest to the Ray company and will open a new coal jobbing company. He was a stockholder with the Ray interests in the Neutral Coal Producers Co. He will handle all grades of coal and has taken options on two mining properties which he intends to develop later.

KANSAS

Early returns from the run-off election, Feb. 2, in District 14, United Mine Workers (Kansas), indicated that district headquarters will be moved from Pittsburg to Frontenac, Matt L. Walters, district president, announced the day after the election. Frontenac offered the district free use of Miners' Hall there for offices. Three contestants were voted on at an election in December, at which time Arma, one of the contesting towns, was eliminated.

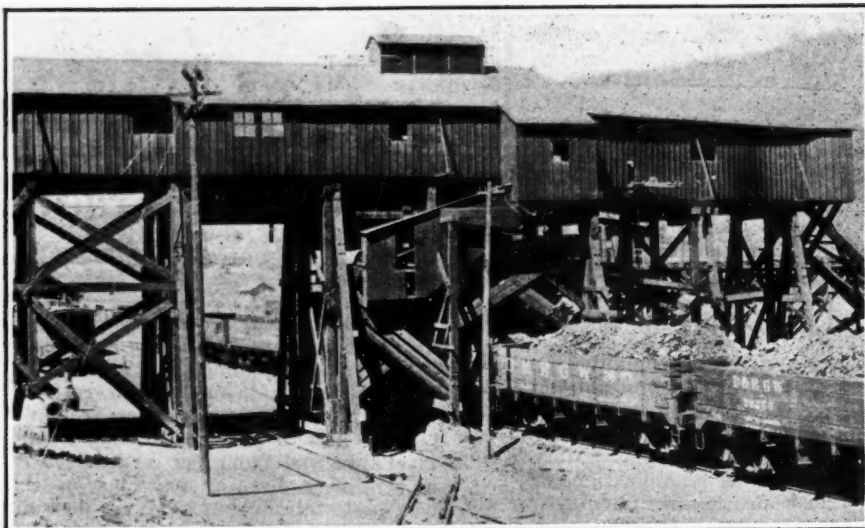
KENTUCKY

Formation of a coal mining company to be known as the Community Coal Co. is under way by business men of Corydon, Frank Ramsey, prominent merchant, presided at a preliminary meeting of 35 interested persons late in January. It is proposed to sink a new shaft near the city.

Vice-President Garth of the Hazard-Bluegrass Coal Corp. says his company plans the installation of new machinery and the construction of 40 new houses. The capacity of the plant is expected to be enlarged to 40 or more cars daily.

Guy H. Sowards, of the Southwestern Fuel Co., Louisville, who during the war was connected with the office of the Fuel Administrator, has been appointed a first lieutenant in the Quartermaster's Reserve Corps, supply division, to look after coal buying in war times for the Fifth Corps Area.

Establishment of a mine rescue station at Pineville is being urged by the Kentucky Coal Operators' Association. The project would serve 400 tippie mines, employing 50,000 workers, according to data presented by E. R.



Bon Carbo Tippie of the American Smelting & Refining Co.

This tippie, located at Bon Carbo, Colo., handles coal for the smelting and refining company's plant about five miles away. The mine from which the coal is taken is equipped with excellent haulage facilities. About 1,200 tons of coal per day is loaded at this tippie.

Clayton, secretary of the Harlan County Coal Operators' Association, and R. E. Howe, Knoxville, Tenn., secretary of the Southern Appalachian Coal Operators' Association. With a car operating out of Pineville, witnesses said, most of the coal district in eastern Kentucky and northern Tennessee could be cared for in case of emergency. Safety campaigns by the government were advocated in conjunction with the actual rescue work.

MINNESOTA

The addition to the Inland Coal & Dock Co.'s plant at Duluth is nearing completion, and it is scheduled to be ready to receive coal at the opening of navigation. With the new addition the Inland dock will be one of the largest coal-handling plants at the Head of the Lakes.

MISSOURI

The Graddy mine, about two miles west of Lexington, was destroyed by fire late in January. All the equipment, the shop and machinery were lost. The mine is owned by E. J. McGrew. It was operated under lease by Ivan Beebe.

George J. L. Wulff, president of the Western Coal & Mining Co., St. Louis, and president of the Southwestern Interstate Coal Operators' Association, headquarters Kansas City, will represent Missouri on the board of directors of the National Coal Association. He will fill the unexpired term of F. W. Lukins, of Kansas City, who died recently.

OHIO

A suit to test the Ohio workmen's compensation law was started in the Jackson County courts recently by Attorney General C. C. Crabbe of Ohio against William McDonald, owner of the mine near Jackson, to compel McDonald to pay to the widow of Charles West the sum of \$5,117 as death

award. West was killed in the mine Oct. 23, 1924, and since Mr. McDonald was not a subscriber to the state compensation fund, it is held that he is liable for the death award. The result of the suit will be watched with much interest by smaller operators in Ohio.

Secretary H. C. Cain of the Columbus Board of Purchase has rejected all bids received Jan. 27 for coal for the various city departments. He announces that the supply necessary will be purchased on the open market for the time being at least. The bids called for 12,500 tons of Ohio nut, pea and slack for the municipal light plant; 7,000 tons of the same grade and size for the Scioto River pumping station and 2,500 tons for the garbage disposal plant.

A civil action has been brought in the Perry County courts by Allen Ripley, John F. Riley, Alexander Beattie and Joseph Francis against the Primrose Coal Co. to collect \$31,000 claimed for the removal of 20,000 tons of mineral stone No. 6 vein from under their land by the defendant company. The plaintiffs also set forth that this operation rendered the coal on their lands inaccessible and ask for damages for that action.

The Maher Collieries Co. (H. F. Pollock, general manager), Bridgeport, is putting in a feeder and a retarder to control the cars on a steep grade.

Clyde S. Palmer has closed the branch offices of the Blue Star Coal Co. and the Three Points Coal Co., which have been maintained in the Union Central Building, Cincinnati, for some time past. Mr. Palmer has gone to Miami, Fla., where he will be in the plumbers' supplies business.

Walter A. Jones, of Columbus, and Fred E. Butcher, of Danville, Ill., receivers for the Wayne Coal Co., of Pittsburgh, are taking steps to liquidate the concern. Inventories of the various properties are being made, preparatory to offering them for sale. The suit which culminated in the re-

ceivership was brought by the Colonial Trust Co., of Pittsburgh, to recover on a mortgage of \$3,800,300 issued in 1917. The mortgage was given to float an issue of sinking fund bonds amounting to \$12,156,000. All of this issue of bonds has been cancelled with the exception of \$3,800,300 due in February, 1925. Properties of the company are located in Jefferson County and Athens County, Ohio, and in the Pittsburgh field. All are stripping operations.

OKLAHOMA

A recent report from Henryetta, in District 21, United Mine Workers, where a strike was called Sept. 1, 1925, showed that in that field in the last week of January twenty-four mines were working and nine were idle. Of the twenty-four mines in operation, twelve, operating open shop, under the 1917 wage scale, were producing more than 3,000 tons a day. Four mines, employing union miners under the 1924 scale, were producing 1,300 tons a day, and eight small mines, operated co-operatively, were producing 300 tons a day.

PENNSYLVANIA

Four men were killed at Archbald Jan. 31 when a cave-in occurred in an abandoned stripping operation of the Hudson Coal Co. The men were engaged in "bootleg" mining of coal when a huge rock was jarred loose and enveloped them.

The Wilmore Coal Co., of Philadelphia, announced the appointment on Feb. 1, of R. M. Mullen as general superintendent, and Frank King as superintendent, with offices in Windber, Somerset County. Mr. Mullen is a native of Indiana and a graduate in engineering at Princeton. He has been associated with the development of Windber coal since the beginning of operations. Mr. King is a graduate of Pennsylvania State College and has been located in Windber for three years.

James H. Allport, president of the Rich Hill Coal Co., at Barnesboro, and president of the Barnesboro Bank, is being prominently mentioned as a candidate for the Republican nomination for Congress from the Cambria County congressional district. The present Congressman, Anderson H. Walters, will not be a candidate to succeed himself. Mr. Allport is a member of the board of directors of the Central Pennsylvania Coal Producers' Association and served on the engineering board of Dr. Garfield's Fuel Administration during the World War.

The Bethlehem Mines Corporation is understood to be planning to start two more mines on the 1917 scale, at Ellsworth and Bentleyville. The company now has two mines working on this basis at Marianna and Cokeburg, in the Pittsburgh district.

Ninety-six per cent of the employees of the Orient Coal & Coke Co. (subsidiary of A. M. Byers Co.), Pittsburgh, have subscribed to a plan for employees' insurance arranged with the Metropolitan Life Insurance Co. Under

the terms of the plan general employees may obtain \$1,000 policies for 75c. per month and foremen and supervisory employees \$2,000 policies for \$1.50 per month, the company paying the balance of the net cost.

The Lehigh Valley Coal Co. has installed a mine pump at the Stockton end of the Shaft colliery that is said to be a forerunner of the time when the status of the pump runner in event of strikes won't be cause for anxiety. This pump is run by electricity and it needs no attention from a pump runner. Several times a week it is inspected, but that is all. An arrangement throws on the current when the rising waters submerge the end of the tail pipe and the same contrivance throws off the current when the pump lowers the level and leaves the tail pipe free from water.

Hillman Coal & Coke Co., of Pittsburgh, is improving the Edna No. 2 Mine, at Irwin, and will install a set of automatic cagers.

It is reported that negotiations are under way for the construction of a byproduct coke plant which will produce 1,000 tons daily near Morrell, south of Connellsville. Connellsville and New York capital is interested, the former owning 1,500 acres of coal lying 60 ft. under the surface. A 1,000-ton byproduct plant, as figured in the Connellsville district, would be equivalent to a 500-ton beehive plant.

The Harmon Creek Coal Co., one of the concerns in which John A. Bell, bankrupt coal man, owned a chief interest, has filed an answer in court at Pittsburgh, to a suit in equity filed by the Colonial Trust Co. of Pittsburgh, which seeks the inclusion of 500 acres of valuable coal land in Ohio in a mortgage made by the defendant company. The company claims that the property was acquired six months after the signing of the bond agreement.

TEXAS

Dr. J. P. Sparks, of Rockdale, has been appointed to the State Mining Board to succeed E. A. Camp, of Rockdale, whose term expired Jan. 1. W. K. Gordon, of Fort Worth; John Legory, of Crockett; Pete Kramer, of Mingus; D. B. Hollis, of Lovelady; L. R. Stoddard, of Calvin; and Adam R. Johnson, of Austin, compose the board, and their terms expire August 5, 1926. Frank Willis Denison, of Bastrop, is state mining inspector.

WEST VIRGINIA

Walter R. Thurmond, one of the leading operators of the Logan field, announces the consolidation of four coal companies in which he and his associates are interested in that field into one large company, the Thurmond Consolidated Coal Co., capitalized at \$1,000,000. The companies merged are the Argyle Coal Co., Thurmond Coal Co., Logan Eagle Coal Co. and the Perry Branch Coal Co. Officers of the old companies as well as directors will continue in the new company, Mr. Thurmond being the general manager and A. E. Wait secretary and treasurer.

The Thurmond Consolidated Coal Co. controls approximately 6,500 acres of coal land in Logan County, operating five mines with an annual production of about 750,000 tons. Finishing touches were put on the merger at Charleston.

The Consolidation Coal Co. is opening additional mines in the Fairmount field as rapidly as it can get the labor to man them. Thus far fifteen of its mines have gone into operation. In 1925 the company produced 8,042,280 tons, notwithstanding the long shut down in the early part of the year. Its 1924 output was 7,957,456 tons.

The U. S. Circuit Court of Appeals at Richmond has upheld a decision of the U. S. District Court at Charleston awarding a judgment of \$94,437.82 to the Dingress Run Coal Co. against the Steel & Tube Co. of America. The litigation involved a dispute over a 10 per cent sliding scale of royalties on coal mined on land leased from the Dingress Run company by the steel company. The latter company contended that the coal had not been sold but had been shipped to its furnaces in the west and that therefore no royalty was due to the plaintiff company. The court, however, ruled in favor of the coal company. The decision deals with royalties on coal mined during 1920 and 1921.

The Sitnek Coal Mining Co. of Lumberton, recently installed a set of yoked horn feeders.

The W. H. Green Co. has acquired the mine and assets of the Greenmar Coal Co., Elkins, and will operate them.

The United Mine Workers is erecting additional barracks to house evicted miners' families at Watson, Chiefton, Monongah, Ida May, Wendel and Bower.

The Grey Eagle Mining Co., a Delaware corporation, has been granted permission to transact business in West Virginia.

An extensive crushing and screening plant for coke has been constructed by the West Virginia Coal & Coke Co. at its Coalton operation, in Randolph County, and is now in operation. Sizes of coke corresponding to anthracite sizes generally in use will be prepared.

The Guardian Coal Co. has increased its capital stock from \$1,000,000 to \$2,500,000.

The Morrison Coal & Coke Co., of which John C. Wolf, of Baltimore, is secretary, has been authorized to do business in West Virginia and similar permission has been granted the David Thomas Coal Co., of Ohio, of which David S. Thomas, of Naugatuck, W. Va., is secretary.

The State Compensation Department has started making payments to the orphans and widows of the men who lost their lives in the recent explosion in Jamison mine No. 8, near Farmington. The total awards will approximate \$100,000.

S. A. Williams, Wheeling coal operator, has entered suit against C. E. Tuttle, president of the Pittsburgh Ter-

minal Coal Corp., and his agent, B. F. Hoffacker, for \$200,000, alleged to be due from the sale of 2,600 acres of coal at Potomac, W. Va., near Wheeling. The suit was filed in Wheeling. Williams declared he sold the property to Tuttle through Hoffacker, in December, 1924, and that he had received nothing in payment. He said he understood the property was to be included in the North American Coal Corporation merger, and asks the attachment of the Potomac property to prevent its inclusion in the merger.

WYOMING

Union Pacific Mine No. 4, at Reliance, was shut down during the week ending Jan. 30 as the result of a fire which broke through from old workings into the haulage way in a drift of No. 1 mine. The fire was controlled early in the week by stopping back about 800 ft. of the drift, the stops being placed at each end of the fire. This fire has been burning for slightly over 10 years and has been stopped back at various times. The fire has made it necessary to drive crosscuts from the drift to another entry so that coal could be hauled from No. 4 Mine.

Cumberland mines of the Union Pacific Coal Co. received the safety banner for the last six months of 1925, having had the lowest percentage of accidents to man shifts of any group of mines of that company. Cumberland also won the banner for the first six months of the last year. The company's accident record for 1925 shows only five fatalities during the working of almost 480,000 man shifts. The number of fatal accidents in 1924 was nine. For the second time in 25 years the Rock Springs mines, the largest of the company, were without a death.

The Wyoming Federation of Labor has organized fourteen Workmen's Educational Institutes in Wyoming, nine of which are in the coal districts. These schools, organized through the activities of Dr. R. V. Holwell, of Casper, are at Rock Springs, Superior, Kemmerer, Acme, Monarch, Gebo, Lander, Casper, Cheyenne, Rawlins, Hanna, Crosby and Hudson.

CANADA

Shipments of coal from the Larchwood basin near Shelburn, Ont., have commenced and 45 tons have been received in Toronto to be followed by other shipments within a few days. The coal is taken from an open pit 20 ft. deep. Considerable diamond drilling and some development work have been done since government geologists pronounced the coal to be anthraxoite and of no commercial value. It is understood that an experimental test to crush and press it in a mixture of fuel or some similar scheme is to be attempted.

Toronto's 1,000-ton Alberta coal order has been awarded by the Board of Control and deliveries are to commence forthwith at the rate of six cars per week. Five hundred tons of Rosedale deep seam in egg or larger sizes will be purchased from the Rosedale Coal Co. at \$4 per ton f.o.b. mines, and the other five hundred tons from the Northern

Fuel Supply Co., this latter to be mixed lump at \$3.75 per ton f.o.b. mines.

At the meeting of the Alberta Coal Operators' Association, held at Calgary on Jan. 23, a coal advisory board was elected to co-operate with the Alberta Government in extending the market for Alberta coal. W. W. McBain, of Edmonton, and Jesse Gouge, of Drumheller, were appointed as representatives to lay the coal operators' case before the federal government. The Premier of Alberta, who was present at the meeting, promised that his government would do its utmost to co-operate with the association in extending the coal trade of the province.

North Toronto rate payers recently held a meeting which developed into a red-hot discussion of Alberta coal. C. Edwards, a member of the Citizens' Association, dilated at length on the advantages of Alberta coal, and passed through the audience samples of a shipment which had just reached Toronto, and which, according to him, could be delivered at the consumer's doorstep for \$15 a ton. This coal, he maintained, was semi-hard, smokeless and practically sootless. The audience quickly warmed up to the samples, and decided on the spot to purchase through Mr. Edwards one carload of the shipment.

Traffic

Adjust Hard-Coal Rates To Upper New York

In a supplemental order in Docket 15006, commonly known as the Anthracite Substitute Case, the Interstate Commerce Commission has removed certain existing disparities in the rates on anthracite from Pennsylvania points moving to destinations in upper New York State. These adjustments involve some increases in the single-line rates, and generally reductions in the rates for joint-line hauls. To illustrate: It is proposed to increase the present single-line rate to Albany, N. Y., to \$2.75, and to increase or reduce, as the case may be, the rate for joint-line hauls to \$2.88, the rates on pea size and generally on smaller sizes to be 25c. less.

Commissioners Eastman, McManamy and Hall dissented.

Reduce Some Alabama Rates Via Birmingham

By formal order issued Jan. 26 the Alabama Public Service Commission approved rates of \$1.54 per net ton from Louisville & Nashville R.R. mines north of Birmingham, and \$1.64 per net ton from mines of the same railroad south and west of Birmingham on coal in carloads to Florence, Sheffield and Tusculumbia, as proposed by the Louisville & Nashville, Southern, North Alabama, St. Louis & San Francisco railroads.

These new rates have been prescribed by the commission for application via Birmingham. The commission ruled that no present necessity was shown for opening of the proposed route through Decatur for the transportation of coal from Louisville & Nashville

mines to Florence Sheffield and Tusculumbia. Proposal of new rates by the carriers and the order of the commission followed filing with the commission by the Florence Chamber of Commerce of a petition against then existing rates between the points named on coal in carloads, the rates in effect representing a combination of the lowest single-line rates, which it is stated, amounted to more than \$3 a ton.

Obituary

Thomas F. Downing, of Huntington, W. Va., general manager of the Monitor Coal & Coke Co., died Feb. 4, following an operation in a Philadelphia hospital. Mr. Downing was born in England and came to this country when 22 years old. For a number of years before coming to West Virginia, in 1913, he was associated with the Judge Geo. W. Robertson coal interests of Pennsylvania. Mr. Downing was generally regarded as quite successful in his management of the Monitor company, which operated mines in Logan County. At the time of his death he was a director of the Logan Coal Operators' Association. Besides his widow and two daughters, Mr. Downing is survived by a son, Thos. F. Downing, Jr., of Philadelphia, who is connected with the coal business.

Col. Lloyd G. McCrum, aged 50 years, a veteran of the World War and former Somerset County (Pa.) coal operator, died at the New Haven Hospital, New Haven, Conn., on Feb. 3. He had been a patient in the hospital for a month, suffering with Bright's disease. Mr. McCrum left the Somerset coal field five years ago and went to New York, where he became manager of the Richmond Radiator Co., later becoming president of the concern. He was a native of Uniontown, Fayette County. He is survived by his wife and one daughter.

W. L. Mapother, president of the Louisville & Nashville R.R., dropped dead in the street in Panama City, Feb. 3. He was born in Louisville, Ky., in 1872 and entered the employ of the L. & N. at the age of 16. In 1902 he was appointed chief clerk of the executive department, under Vice-President Milton H. Smith, and at the age of 32 became first vice-president. Nine years later he was elevated to the directorate of the road. William G. McAdoo, war-time Director General of the U. S. Railroad Administration, appointed Mapother federal manager with supervision over the operations of the L. & N. and other roads. After the dissolution of the Railroad Administration, following the war, Mr. Mapother was elected executive vice-president in March, 1920. One year later he was elected president to succeed Mr. Smith, who had died a month before.

Association Activities

At the fourteenth annual meeting and dinner of the Cincinnati Coal Exchange, held last week, Burke Keeney, last year's president, formally handed the reins of office to Nolan L. Mahan, recently elected. William C. Culkins, executive secretary of the Chamber of Commerce, of which the Coal Exchange is a subsidiary, was the toastmaster. The principal speakers were J. M. Dewberry, coal and coke agent of the Louisville & Nashville Ry.; J. M. Hutson, D. C. VanZandt of the Norfolk & Western lines, and George Neale, president of the East Harlan Coal Co. William Heitzman read the yearly report of the treasurer and reported that all was well with the funds.

Members of the Montana Coal Operators' Association, in annual meeting at Billings, Mont., re-elected all the old officers for another year. The officers are W. C. Whyte, Anaconda, president; H. S. Hopka, Roundup, vice-president; and M. F. Purcell, Billings, secretary-treasurer. Members of the board of directors are: C. C. Anderson, Seattle, Wash.; James Needham, Chicago; R. W. Wilson, Great Falls; J. M. Freeman, Red Lodge; R. D. Scott, Red Lodge; H. S. Hopka, Roundup; George Wilson, Sand Coulee, and Thomas Good, Washoe, are alternate members of the board. Outside of the election, the association transacted only routine business at its meeting.

Coming Meetings

Pittsburgh Vein Operators' Association. Annual meeting, Feb. 15, Cleveland, Ohio. Secretary, D. F. Hurd, Marion Bldg., Cleveland, Ohio.

American Institute of Mining and Metallurgical Engineers. Annual meeting, Feb. 15-17, 1926, at Engineering Societies' Building, New York City. Secretary, Dr. H. Foster Bain, 29 West 39th St., New York.

The Rocky Mountain Mining Institute. Winter meeting, Feb. 23-25, 1926, at Albany Hotel, Denver, Colo. Secretary, Benedict Shubart, Boston Building, Denver, Colo.

Canadian Institute of Mining and Metallurgy. Twenty-eighth annual and general meeting, March 3-5, at the Windsor Hotel, Montreal, Quebec, Canada. Secretary, G. C. Mackenzie, 603 Drummond Bldg., Montreal, Que., Canada.

New England Coal Dealers' Association. Annual meeting at the State Armory, Worcester, Mass., April 7 and 8. Secretary, E. I. Clark, 141 Milk St., Boston, Mass.

The American Mining Congress. Annual Exposition of Coal Mining Equipment, May 24-28, at Cincinnati, Ohio, in conjunction with the annual meeting of practical operating officials. Assistant secretary, E. R. Coombes, Washington, D. C.

International Geological Congress. The fourteenth congress will be held in Madrid, Spain, commencing May 24, 1926. From May 5 to 22 excursions of interest to the visiting delegates will be arranged. Information concerning the congress can be obtained from the secretary of the organizing committee, Enrique Dupuy de Lome, Plaza de los Mostenses, 2, Madrid, Spain.

American Wholesale Coal Association. Annual meeting, June 7-9, at Toledo, Ohio. Treasurer, R. B. Starek, Union Fuel Bldg., Chicago, Ill.

New Companies

The Hackers Creek Coal Mining Co., of Buckhannon, has taken out a state charter. It has been announced. This company operates chiefly in the Hackers Creek district of Lewis County. The capital stock is \$10,000. The incorporators are George A. Quertinmont, Ophelia Quertinmont, Eugenia Lambert, Emile Monnoyer and Cecile Monnoyer.

Incorporation papers have been filed in Birmingham, Ala., by the **Thacker Creek Coal Co.** to engage in coal mining, etc. J. D. Glasgow is president, S. H. Smith, vice-president; E. N. Hamill, secretary-treasurer. Capital stock is given at \$22,000.

The East Kentucky Coal Sales Co., Inc., has been chartered with a capital of \$10,000 to mine and sell coal in the Harlan field. The incorporators are: J. W. Thomas, Herman Dittmar, Phineas Phillips, Helen Pernice and Meyer Albert.

Industrial Notes

The Strom Division of the **Marlin-Rockwell Corp.** has moved its Philadelphia office to 1211 Franklin Trust Bldg., 15th and Chestnut Sts. A. W. Wiese will continue as manager in that territory.

William K. Vanderpoel, formerly general superintendent of distribution of the Public Service Electric & Gas Co., New Jersey, has become vice-president and executive engineer of the **Okonite Co.** and the **Okonite-Callender Cable Co., Inc.**

At the annual meeting of the **Roberts & Schaefer Co.,** Chicago, on Jan. 25, the directors created a new office of chairman of the board, to which Col. Warren R. Roberts was elected. Edward E. Barrett was elected president; John J. Roberts, treasurer; Frank E. Mueller, first vice-president; Clyde P. Ross, second vice-president, and Ray W. Arms, third vice-president.

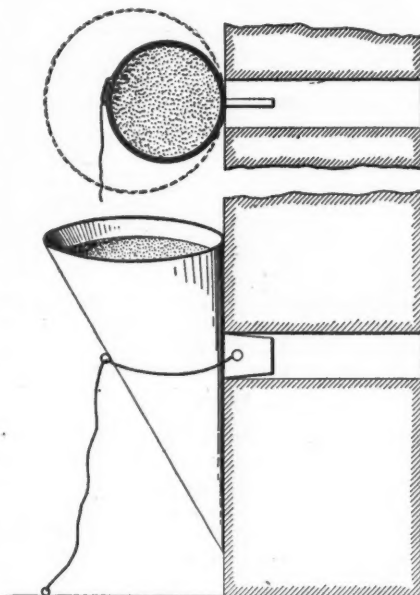
Fraser & Chalmers of Canada, Ltd., with offices in the Canada Cement Building, Montreal, have been appointed sales representatives for the provinces of Quebec, Nova Scotia, New Brunswick and Ontario by the **Terry Steam Turbine Co.,** Hartford, Conn.

New Equipment

Dust Bag Mounts Guard Over Mouth of Shot Hole

That a bag of incombustible dust be suspended outside a shot hole—in order to provide, in front of a blownout shot should one occur, a dense cloud that would extinguish the flame—has been frequently proposed. There are two difficulties—providing for the suspension and the danger of igniting the bag.

Dr. Kruskopf, of Germany, has devised a method of driving within the mouth of the hole a truncated steel



Holds Rock Dust in Place

This arrangement by which a bag of dust is hung in a loop of wire over the mouth of a shot hole is intended to insure a flame-quenching cloud with each shot. The wire is attached to a wedge in the hole.

wedge or dowel which can be recovered after each shot. This wedge is perforated, and a wire about 3 ft. long is passed through the hole. As the wire and wedge fall together when the shot is fired, it is easy to find the wedge even when covered with coal. It can, therefore, be used over and over again.

Impregnated and incombustible bags of the correct size and shape are provided, and one is slipped into the loop of the wire. The loop is made of such size that the bag is held with the greater part of the dust above the center line of the hole. The bags are manufactured of such size that from 4½ to 5½ lb. of dust can be used as prescribed.

Tests made at Neunkirchen in the Koenig mine showed that no ignition took place when 17½ oz. of gelatinous dynamite blew out, the shot having been tamped in a 2½-in. hole with one tamping cartridge of rock dust and protected by 2.2 lb. of dust in a bag of the kind described. The hole was 2 ft. deep and 8 to 9 per cent of methane was present in the atmosphere.

When a shot of 78 grains of the same explosive, without tamping or exterior protection, was fired the gas exploded despite the fact that the loading was only about one-hundredth as large. The Wolf Safety Lamp Co. of America, 220 Taaffe Place, Brooklyn, is prepared to supply this equipment.

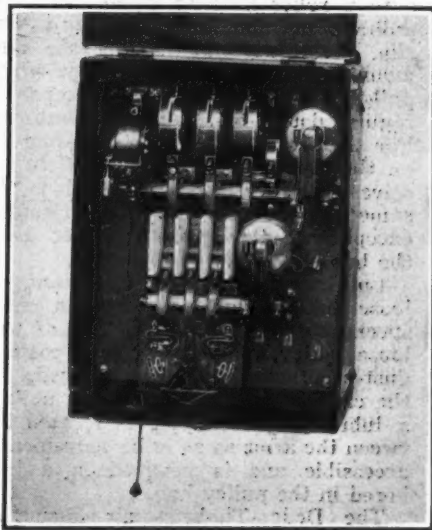
Improvements in Starters Increase Reliability

Primary resistance starters for squirrel cage induction motors built by the General Electric Co. and designated as CR-7056-D-1, have been superseded by two new types, the CR-7056-D-3 in sizes up to 25 hp., and the CR-7056-D-4 in capacities from 25 to 50 hp. The D-3 is provided with arc barriers and the D-4 is equipped with magnetic blowouts and arc chutes, permitting the handling of the larger motor currents. Both starters have an improved magnetic time interlock, an important change being that the operating spring is in compression instead of tension. The interlock can thus be adjusted more easily.

These resistors also have been redesigned and enlarged to give greater capacity, and conform to Classification No. 16 of the Electric Power Club, which provides 200 per cent full load current or more on the first point for 15 sec. out of every 4 min.

The inclosing case of the D-3 starter opens from the top, is ventilated, has two 1½-in. knockouts in the top and has two knockouts of the same size in the bottom. These provide ample space for power and control wires. The cover may be padlocked shut if desired.

The inclosing case of the D-4 starter is larger than that of the D-3, in order to make room for the increased size of



New Starter With Cover Raised

This is a starter of the larger type intended for serving motors from 25 to 50 hp. The smaller sizes, however, or those of less than 25 hp. are similar, differing only in detail.

the equipment. This case opens on the side and, like the D-3, can be padlocked shut if desired. It is provided with two, 2-in. knockouts in both top and bottom. Both forms of starter are arranged for wall mounting and have an approximate weight of 122 lb.

Portable Insulated Socket Prevents Short-Circuits

In many places in and about the mine and mine plant, both above and below ground, portable electric lamps on extension bars are necessary for a proper execution of the work in hand. To meet the demand for a safe equipment of this kind, the Daniel Woodhead Co., of 15 North Jefferson St., Chicago, makes the portable socket cover shown in the accompanying illustration. The handle



Strong Insulated Portable Socket Cover

of this device is made of a high-grade rubber compound so proportioned as to withstand the abuses common to the type of service in which it will be used. The wire guard also is insulated to prevent possible shortcircuiting during inspections behind switchboards.

Loose Pulley Is Fitted with Roller Bearing

A new loose pulley that incorporates the advantages claimed for the tapered roller bearing, as well as certain other desirable features, recently has been introduced by the Dodge Mfg. Corp., of Mishawaka, Ind. This pulley includes a Timken roller bearing in its hub and the new pulleys are now available in both iron and steel.

The roller bearing loose pulley consists of an Oneida steel pulley provided with an extra large bore to accommodate a roller bearing mounting. The pulley is not split, but is riveted at the rim, the clamp hub holding the unit mounting in place. The loose cast-iron pulleys are made from the company's regular double-belt solid iron patterns. For diameters up to and including 20 in. the pulleys are counterbored to receive the roller mounting which is the same as that used in the steel pulley except that the housing is not used, the hub serving as the housing.

Lubrication, always important in loose pulley operation, has been given special attention in the design of this loose pulley, and, in addition, positive dust-proofness has been provided. In the case of both steel and iron pulleys a lubricating feed pipe is located between the arms so as to be conveniently accessible and is inserted in a hole bored in the pulley hub.

The Dodge-Timken unit mounting consists of two tapered roller bearings mounted on a ground steel tube and fitted to an accurately machined cast-iron housing. Grease seals and two clamping collars are mounted on the threaded ends of the steel tube. The

tube is slotted and threaded at each bolt. In one, the spools are mounted one above another and in the other the three spools are carried side by side on a bolt extended through the clevis. In addition to use for 3-phase power feeder lines these fittings are being employed in combinations of phone lines, signal wires, feeder and other circuits, thus simplifying construction.

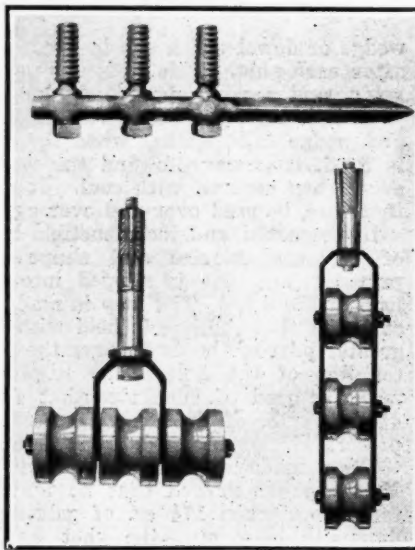
A feature that the manufacturer considers of importance is the availability of both iron and steel loose pulleys from stock. The pulleys are made with standardized bores and the unit mountings have standardized outside diameters to accommodate all ordinary shaft sizes. It is, therefore, possible in certain cases to change the bore of the pulley by merely applying another unit with a housing having an outside diameter conforming to the pulley bore and with a tube to accommodate the desired shaft diameter.

Simplified Suspensions for Three-Wire Feeder Lines

Three schemes for suspending 3-phase feeder lines or combining other circuits onto one bracket are provided by new devices developed by the Ohio Brass Co. Each of these devices has three insulators or spools assembled so as to carry three wires with the use of only one expansion bolt or barbed pin.

In one, the right angle triple-pin type attachment can be made either in the roof or wall by means of the barbed pin. Thus either a horizontal or a vertical position of the insulators is secured. This fitting uses any standard 1-in. threaded insulator and, consequently, can be used where it is desired to take advantage of high tension porcelain insulators. All three are accessible and the device is said to be easy to erect.

The other devices are modifications of the clevis frame used with the O-B Type C single spool assembly, adapted to carry three spools. Attachment to the roof is made with an expansion



Handy Suspensions for Three-Wire Circuits

Standard insulators are used exclusively and in every case all three are held in place from a single attachment. This greatly simplifies circuit suspension.

Galvanizing Does Not Render New Castings Brittle

Hot-dip galvanizing has long been recognized as one of the best known methods for rust-proofing castings. Unfortunately, however, ordinary malleable castings are frequently rendered brittle by this process, although experience has demonstrated the great desirability of this method of zinc coating as a means of preventing rust. In order to overcome the deleterious effects of the process upon malleable castings, The Ohio Brass Co., of Mansfield, Ohio, has developed a new metal, called "Flecto" iron. This is a malleable iron which, by virtue of a heat treating process, is rendered immune from all tendency to become brittle when hot-dip galvanized. In addition also to retaining all the desirable characteristics of malleable iron, this process so improves the quality of the metal that it is considered as being practically a new alloy.

Although announcement of this new process is only now being made, it is understood that all malleable iron castings produced by this manufacturer during the past few years have been treated by this process. Announcement has been purposely withheld until the metallurgy of the new material might be thoroughly proved by practical use in the field. The most valuable characteristic of the new iron is that it will stand galvanizing by the hot-dip method without any tendency to become brittle. It, therefore, always retains its malleable property. In fact, treatment of castings by the new process so improves their physical characteristics that all castings of this company are now being treated by this process, whether they are to be galvanized or not. The process for making the new metal is patented, but is available to other manufacturers under liberal license agreements.

Trade Literature

The Link-Belt Co., Chicago, Ill., has issued *All-Purpose Crawler Crane Book No. 895*, containing 48 pages and illustrating and describing the use of the dragline, dipper and trench shovel, skimmer scoop, hook blocks and piledrivers. Data on lifting capacities are given.

General Electric Co., Schenectady, N. Y., has issued the following bulletins: GEA-255, G-E Arc Welder, Type WD-11; GEA-67, CR-2931, Float Switches for Automatic Pumping Equipments, Water Level Control; GEA-9, Gas Engine-Driven Arc Welding Sets, consisting of a WD-12 generator and Buda engine. These folders are 8 x 10 1/2 in. and illustrated.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has issued a 56-page catalog on *Safety Switches*. Included in the catalog is a new type of safety inclosed switch, externally operated and with a quick-break mechanism; a quick-make, quick-break compensator switch made in capacities of from 30 to 400 amperes; a Universal meter trim also is described. At the end of the catalog comparative switch information and wiring data are given.